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ABSTRACT

The 43 conference papers in this yearbook cover such diverse topics in the field of reading as the analysis of children's literacy responses, the study of aesthetic literacy, and the investigation of phonemic awareness. The yearbook includes both data-driven studies and conceptual explorations of diverse literacy learners. The yearbook opens with the presidential address to the conferees: "Researching the Literal: Of Muted Voices, Second Texts, and Cultural Representations" (D. E. Alvermann). The other papers include: "Assessment as Social Practice" (Peter Johnston); "Language and Learning: Exploring Schooling Issues That Impact Linguistically Diverse Students" (O. B. Miramontes); "What Is Scaffolded Instruction? Definitions, Distinguishing Features, and Misnomers" (D. K. Meyer); "The Case for Expressive Writing for Developmental College Readers" (I. Baker and P. I. Mulcahy-Ernt); "Reading in English as a Translation Task: Fluent Deaf Young Adult Bilinguals" (P. N. Chrosniak); "Portfolios: Agents of Change and Empowerment in Classrooms" (R. A. Stewart and E. E. Paradis); "Literacy and Diversity: Do We Need Dichotomies or Not?" (C. A. Elster and E. B. Moje); "Whole Language and Research: The Case for Caution" (M. C. McKenna and others); "Mexican-American Bilingual Kindergartners' Collaborations in Meaning Making" (J. Battle); "Literacy Needs of Limited-English Proficient Students: What Information Is Available to Mainstream Teachers" (G. E. Garcia and others); "Home Contributions to Early Language and Literacy Development" (D. E. Beals and J. M. De Temple); "Moving toward Aesthetic Literacy in the First Grade" (B. Berghoff); "Environmental Print, Phonemic Awareness, Letter Recognition, and Word Recognition" (S. A. Stahl and B. A. Murray); "Constructing Community and Intertextuality in Electronic Mail" (J. Myers); "Children's Insights into Literature: Using Dialogue Journals to Invite Literary Response" (C. Farest and C. Miller); "The Other Half: A Case Study of Asymmetrical Communication in Content-Area Reading Student-Professor Dialogue Journals" (T. W. Bean and J. J. Zulich); "Preservice Elementary Teachers' Evolving Perceptions of Portfolio Assessment" (D. W. Frazier and others); "The Influence of Context, Community, and Culture: Contrasting Cases of Teacher Knowledge Development" (D. L. Fox); "Literacy and Literature in Elementary Classrooms: Teachers' Beliefs and Practices" (P. L. Scharer and others); "Causal Relations and Their Effects on the Comprehension of Narrative Texts" (W. H. Slater); "Patterns of Development in Narrative Stories of Emergent Writers" (M. A. Domico); "Voicing in Spanish to English Spelling Knowledge Transfer" (L. Ferroli and T. Shanahan); and "Can Teachers' Images of Good Writing Conflict with Goals of Process Writing?" (S. J. McCarthey). The NRC program, and author and subject indexes are attached. (RS)

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EXAMINING CENTRAL ISSUES IN LITERACY RESEARCH, THEORY, AND PRACTICE

Forty-second Yearbook
of
The National Reading Conference

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PREFACE

Once again, it is a pleasure to share with you many of the papers presented at our annual conference. We are renewed each year by the privilege of seeing the important issues being explored by our membership. As you examine the *Forty-second Yearbook*, we believe you will find the discussion of central issues useful to your own thinking about literacy research, theory, and practice.

Collectively, the *Forty-second Yearbook* includes topics as different as the education of ethnographers, the analysis of children's literary responses, the study of aesthetic literacy, and the investigation of phonemic awareness. It includes both data-driven studies and conceptual explorations of topics central to our field. Finally, it includes works about literacy learners as diverse as college readers, deaf young adults, preservice and experienced teachers, bilingual and bicultural students, preschoolers, and parents. In fact, our sense is that the field is at a moment in time when diversity serves to define our work in topics, populations, methods, and theoretical assumptions. We find these multiple lenses to be especially productive as we attempt to better understand the multidimensional contexts of literacy learning.

Since acceptance decisions are almost always based on reviewer recommendations, we work very hard to ensure that our editorial board reflects this diversity and that their analyses are both rigorous and fair. We are grateful to our reviewers this year who contributed their time and talent and who so carefully reviewed submissions. Each of the 120 manuscripts submitted to the *Yearbook* was reviewed by at least three reviewers as well as the editors. Based on reviewer recommendations, our own reading of the manuscripts, and considering space constraints, 43 manuscripts were ultimately accepted for publication. In addition to these articles, the *Forty-second Yearbook* includes Donna Alvermann's presidential address, the annual review of research written this year by Peter Johnston, an invited address by Ofelia Miramontes, and an article by Debra Meyer who received this year's student research award for her work.

A project of this magnitude can only be produced in such a short period of time with the assistance of many individuals with many special talents. It is a pleasure to express our appreciation to everyone who was a part of the *Yearbook* team. We wish to thank the many authors and reviewers who gave their time and their ideas to this project so graciously. We also thank our editorial assistants Laurie Ayre and Jeanne Peter who kept us organized as we worked with 236 authors, 124 manuscripts, 115 reviewers, and 352 reviews, all in the space of 132 days. In addition, we are grateful to our secretaries Joan Simonetta, Vickie Lee, and Deloris Clark who supported us with their many contributions at each step in the process. We also appreciate the support provided by both of our institutions that enabled us to meet our many expenses. Finally, we especially appreciate the work provided by Anthony Cheung and Sharon Bennett at NRC headquarters. Without their help, patience, and careful attention to many details, it would have been impossible to publish a volume of this complexity within our tight timelines. To everyone, thank you!

We would also like to note that our work on this volume is founded on a friendship that has its history in a long line of collaborative projects. Our work together sustains itself by the mutual respect each of us has for the knowledge and skill the other brings to our tasks. The *Yearbook* continues this long and productive pattern. The *Forty-second Yearbook* is a joint effort in the fullest sense of a partnership, a coedited volume with each of us participating equally throughout the project. The order of our names on this volume was determined randomly.

Donald J. Leu
Syracuse University

Charles K. Kinzer
Vanderbilt University

John T. Guthrie

OSCAR S. CAUSEY AWARD

The Oscar S. Causey Award is given each year for outstanding contributions to reading research. Dr. Causey was the founder of the National Reading Conference and served many years as Chair of the Executive Committee.

This year's recipient is especially worthy of an Oscar, not only because of his exceptional contributions as a researcher but also because he is a Hollywood lookalike, resembling Paul Newman who has also received an Oscar. Our winner has impersonated another identity as well. At last year's NRC meeting he made his debut as one of the Blues Brothers playing a harmonica at The Lighter Side.

Most importantly, this year's recipient has led a highly distinguished career in his principal role as a researcher. He was mentored by Richard Anderson at the University of Illinois where he received a Ph.D. in Educational Psychology in 1968. He has been a professor on faculties at Johns Hopkins University and the University of Delaware. He served as Research Director of the International Research Association from 1974 to 1985. Presently at the University of Maryland he is Professor of Human Development and Director of the Center for Educational Research and Development. Another title was added to this list recently when he led a team that won the competition for the National Reading Research Center. Presently he is a co-director of that center. You all have surely guessed by now who our highly deserving Oscar recipient is for 1992, John T. Guthrie.

I would like to tell you about Professor Guthrie's distinguished career as a highly esteemed, highly productive researcher. He has published a very long list of empirical studies in the most respected journals including *Reading Research Quarterly, Journal of Reading Behavior, and Journal of Educational Psychology.* This work has explored a wide range of important issues, including: readability, motivation, reading disability, and reader response. He has also been an author/editor of five books. Most recently he has advanced knowledge in our field by exploring how readers locate information in documents using a search task.

Between 1976 and 1984, his writing attracted the attention and interest of large numbers of readers through his highly informative columns on research appearing in *The Reading Teacher* and *The Journal of Reading*. He wrote and published over 100 columns between 1976 and 1984. This prolonged effort to convey important research findings to a wider audience illustrates Professor Guthrie's strong commitment to linking research to practice.

Professor Gunthrie has been a very active contributor to the NRC program over the years. This year he was involved in at least five different ways, as chair, discussant, panel member, paper presenter, and round table participant. Also I hear that he will be performing again on his harmonica on Friday night.

I am extremely pleased and honored to present the 1992 Oscar Causey Award for Distinguished Research in Reading to John T. Guthrie.

Presented by Linnea C. Ehri
December 1992

Patricia L. Anders

ALBERT J. KINGSTON AWARD

The annual Albert J. Kingston Award for Service to the National Reading Conference was established in 1985 to honor Professor Albert Kingston for years of dedicated service to NRC. Professor Kingston, an educational psychologist and reading specialist, was President of NRC in 1965–66.

Dr. Patricia L. Anders is currently a Professor of Education at the University of Arizona where she has taught content-area reading and other reading courses since 1976. She received her Ph.D. from the University of Wisconsin (Madison) in 1976. Prior to that she was a high school reading specialist in Racine for 3 years and she was also a reading treacher for 3 years in a middle school.

Dr. Anders is being honored for countless hours of service and accompanying vexations related to the National Reading Conference where she has served on the Board of Directors from 1982 to 1984 and as Treasurer from 1985 to 1989. She has also served for many years on the Editorial Boards of both the *NRC Yearbook* and the *Journal of Reading Behavior.* In fact she has only a slightly blemished record of attendance at NRC meetings since she joined in 1975. She missed only the 1979 meeting with the lame excuse of recent motherhood (but her coauthored paper was read at the meeting).

Dr. Anders ran for President of NRC against her friend Trika Smith-Burke and lost, but it is to her everlasting credit and indomitable good spirit that it did not cause her to give up NRC as has happened to some male also rans.

Dr. Anders has coauthored an Erlbaum book, *Understanding Readers' Understanding,* with Mitchell and Tierney. She has received the AERA Division K outstanding research award for her article "The Relationship Between Teachers' Beliefs and Practice in Reading Comprehension Instruction" published in the *American Journal of Education Research* in 1991 which was coauthored with Richardson, Lloyd, and Tidwell. Her next publication, which will appear in *Teachers College Record* in spring 1993, is entitled "Game Show Host, Bookkeeper, or Judge: The Challenges, Conflict and Contradiction of Assessment."

The National Reading Conference is pleased beyond measure to present the Albert Kingston Award to one of its own, Patty Anders, for representing really outstanding accomplishments in both service and scholarship.

Presented by Edward B. Fry
December 1992

RESEARCHING THE LITERAL: OF MUTED VOICES, SECOND TEXTS, AND CULTURAL REPRESENTATIONS[*]

Donna E. Alvermann
University of Georgia

During the past two years I have read broadly in literacy-related fields in anticipation of today, doubting from time to time that I would ever settle on a topic for this address. In retrospect, I suppose that ideas for this talk have been with me for quite some time, but it took months and months of reading and reflecting on other people's thinking to bring my own ideas into focus.[1] In choosing to research the literal of muted voices, second texts, and cultural representations, I set my sights on discovering ways to keep scholarly writing from masking more than it discloses. I am personally interested in this topic because of risks I have been unwilling to take in the past and opportunities I have missed in writing up my own research.

According to the *Oxford English Dictionary* (1987), *literal* is derived from the Latin term *litteralis* meaning to represent the very words of an original translation, version, or transcript. In this paper I will argue that as researchers we need to represent our literal selves by unmasking and laying bare the influences that shape our writing. It is an argument that has its risks, but also its rewards. The risks involve questioning privileged ways of writing and knowing, sharing interpretive authority, and coming to terms with the voyeuristic aspects of research. The rewards include being heard and understood more fully, but more importantly, I believe, they include finding a richer and more textured side to literacy research.

Of Muted Voices

Silencing the discourse of others is one meaning associated with muted voices. It is not the meaning intended here, however. The muted voices that concern me are our own, and they are of our own making. They are muted in the sense that all too often what we want to communicate through scholarly writing is suppressed or largely unintelligible to all but a select few.

In a society that favors symbolic thinking, it is often difficult to get anyone to admit to being a literal thinker, much less a writer of plain English. Yet, clear writing in the professions is essential (Gottlieb, 1992). Increasingly, state legislatures are requiring that medical consent forms, business documents, and legal contracts be writ-

---

[*] Presidential Address, The National Reading Conference, San Antonio, Texas, December 2, 1992.

[1] I would like to thank the following individuals for reading and reacting to an earlier draft of this paper: JoBeth Allen, Patricia Anders, Michelle Commeyras, Sandra Hollingsworth, Lorri Neilsen, and David Reinking.

ten in straightforward language. If such is the case for medicine, business, and law, can we in education be any less concerned? As researchers engaged in the study of literacy, our work has the potential to make significant differences in people's social, economic, and political well-being. To deny public access to this work is insensitive at best and irresponsible and elitist at worst.

But perhaps this is too harsh an indictment. Perhaps we merely believe we have the luxury, or even a mandate, to write for a relatively small circle of like-minded academics. Recently, Yvonna Lincoln (1991) attempted to locate the origins of this kind of thinking. Speaking before a group of her peers at the 1991 annual meeting of the American Educational Research Association in Chicago, Lincoln quoted from Marianna Torgovnik's work at Duke University. According to Torgovnik (1991):

> All of us who write . . . today wrote dissertations yesterday. And our teachers often tried, and succeeded in, handing on what they perceived as the correct—that is, the careful, the judicious, the fair—way to write. But the styles we were taught can't work now in the same way as they worked fifty or even fifteen years ago. No one who gets around to writing a book, or even an essay, ever reads everything that has been written about a subject. Yet we cling to the fiction of completeness and coverage that the academic style preserves. This style protects us, we fondly believe, from being careless or subjective or unfair. It prescribes certain moves to ensure that the writer will stay within the bounds that the academy has drawn. . . .
>
> If all we want to do is to write for professional advancement, to write for a fairly narrow circle of critics who exist within the same disciplinary boundaries as we do, there is nothing really wrong with the traditional academic style. . . .
>
> But when [researchers] want to be read, and especially when they want to be read by a large audience . . . [the process] means writing as persons with feelings, histories, and desires—as well as information and knowledge. (p. 33)

Staying within the bounds that the academy has drawn is safe. It also takes less time and effort, as Sandra Hollingsworth of Michigan State University discovered when she sought permission to deviate from the guidelines set forth in the *Publication Manual of the American Psychological Association* (American Psychological Association, 1983). Sandra, or Sam as she is known to most of her NRC colleagues, wanted to use authors' first names in place of their initials in the reference list of her article (Hollingsworth, 1992) that appears in the Summer 1992 issue of the *American Educational Research Journal* (*AERJ*). In keeping with feminist research practice, Sam wished to identify the gender of the authors whose works had enabled the women in her study to examine their personal experiences as literacy teachers and to claim ownership of their education through their participation in the research process.

In reflecting upon this experience, Sam wrote in a letter to me dated September 14, 1992 (and I quote with her permission):

> The publication of the article itself, *Learning to teach through collaborative conversation: A feminist approach*, with its narrative style and critical stance on teacher education in literacy, was a challenging proposition. It took three rounds of reviews before it was a "go." The publication of first names to display and celebrate gendered contributions was even a more challenging effort. I simply don't think naming had been questioned before—and therefore became precedent setting.

Sam ended her letter by noting how appreciative she is of Hilda Borko, who was the editor of *AERJ* at the time, and Jeanne Spaeth, *AERJ*'s production editor, for their willingness to assume the risks that allowed her to use the authors' first names in her list of references.

I would like to pursue the issue of naming further because I believe it illustrates how certain privileged conventions of scholarly writing can threaten the integrity of our research by masking who we really are. Although I realize the argument can be made that by *not* divulging an author's gender, we allow others to evaluate the work more objectively, I agree with Sam Hollingsworth who wrote in her letter to me:

> Including first names so that gender (and sometimes ethnicity) becomes visible is not only an obvious feminist issue; it is also an epistemological issue. Sandra Harding, in her 1991 book, *Whose science, whose knowledge: Thinking from women's lives,* argues that the dominant concepts of science, objectivity and methodology, never written to take into account the experiences of women and minorities, are problematic in themselves. Therefore, publication guidelines supporting the same paradigms by hiding gendered opinions are not only discriminatory, but questionable in terms of scientific scholarship. (Personal communication, September 14, 1992)

I expect the issue of naming will become a concern of other editorial teams and publication committees as they come face to face with authors who wish to disclose the influence of gender, race, and ethnicity in their professional writings. Or, as Jay David Bolter (1991) has pointed out in his book, *Writing Space: The Computer, Hypertext, and the History of Writing,* similar challenges to publication guidelines will likely occur when the electronic medium begins to question the values of stability and authority as traditionally defined by print technology.

But for me the larger issue is why we typically choose to mute our own voices by not disclosing in the *body* of our scholarly writings the kind of information that would enable readers to discover our social histories, biases, beliefs—in short, who *we,* as academics, really are. For as JoBeth Allen (personal communication, November 24, 1992) commented after reading an earlier draft of this paper, we seldom have qualms about making clear (through various instruments, journals, and interview data) the histories, biases, and beliefs of the teachers and students we study.

Why do we choose to hide behind a facade of objectivity in matters like: Which research questions get asked and which do not? Which populations are studied extensively and which are ignored for the most part? or, which methodologies are embraced and which are discarded—and why? As Jerry Harste (1992) reminds us, "To say 'I will select my methodology based on my research question' is to fail to realize that methodologies have in them theories of language, learning, and knowing. Paint-by-number research is neither innocent nor neutral" (p. x). Or, as Sandra Harding (1987) puts it, "[those] who identify and define scientific problems leave their social fingerprints on the problems and their favored solutions to them" (p. 184).

Sometimes these "social fingerprints" are so permanently fixed in a researcher's past that the only way to deal with them is to first acknowledge their presence and then account for their effects. This is what Valerie Walkerdine (1990) of the University of London has done in her book *Schoolgirl Fictions.* In a section of the book called "Working-Class Rooms," Walkerdine describes how for years as an academic she managed to conceal her working-class origins. But in 1983, while participating in a research project that required her to be present for long periods of time in the home of a white working-class family, Walkerdine came face to face with her past:

> Where and who was I: the working-class child of my fantasies or the middle-class researcher who was part of an attempt to tell a truth about "The Working Class"? . . . I was struck by the . . . anxieties and pain triggered in me by being perceived as a middle-class academic confronting a working-class family. Although I invested considerable desire into wanting to "be one of them" at the same time as "being different," no amount of humanistic seeking . . . would get them to see in me a working-class girl 'like them.' Rather than disavow that dynamic, therefore, it became necessary to work *with* it and to acknowledge . . . their reading of me as middle-class in the data I collected. (pp. 195-196)

One year later, in 1984, Walkerdine wrote what she describes as one of the most painful essays of her life. According to her, that essay, *Dreams from an ordinary childhood*, "was a 'coming out' as working-class, a realization that for years I had been frightened to reveal my past in academic circles and had engaged in a kind of masquerade in which I had . . . felt ashamed of my background" (Walkerdine, 1990, p. 157).

In the summer of 1990 while attending a conference at Mt. Holyoke College, I had the privilege of meeting and talking with Valerie Walkerdine. She was a captivating speaker and an equally good listener. Our conversation took several turns, as I recall, but what I remember most vividly was the time we spent comparing our lives growing up "working-class" in the 1940s and 1950s—she, in an area outside of London, and I, in a small town in upstate New York. Like her, I had been influenced greatly by a maternal grandmother who lived close by and fed my dreams of becoming a teacher. Unlike Walkerdine, however, I have never tried to hide my blue-collar origins, though for sure a few unpleasant childhood memories linger—like the day a friend, Carol, in third grade told me that her father, a wealthy lawyer in our hometown, would not let her come to my house to play after school because my father worked in a factory.

Each of you, I suspect, can recall something from your personal past that continues to influence how you think about life, generally, and how you report your research, specifically. For me, the childhood memory of being judged on the basis of my father's place of work had little bearing on the research I did as long as it was the kind of research that allowed me to collect data in two or three runs at a school, to code the data for computer analysis, and to report what I found in a fairly distanced and prescribed manner.

However, when I became interested in year-long classroom observation studies that required closer and more sustained contact with participants and more interpretive forms of writing, why was it I chose not to observe in white, working-class neighborhoods? Why did I also elect to stay as far away as possible from upper-class professional neighborhoods? I suspect that I made these choices for reasons that similarly influenced the questions I asked (as well as those I avoided), how I couched my findings, and for whom I wrote. The point I am trying to make is that I believe as researchers we need to lay bare our interests in studying a particular population (or individual) and to explain how our own background experiences will likely influence what we find and report in our writings. If we do this, we will be one step closer to discovering ways to keep scholarly writing from masking more than it discloses.

Second Texts

The notion of "silent" *second texts* caught my attention as I was reading Henry Louis Gates's (1987) introduction to *The Classic Slave Narratives.* According to Gates, by the end of the Civil War over 100 former slaves had written book-length accounts detailing the horrors of human bondage. So-called second texts were the prototypes for many of these first-person accounts. For example, the first slave narrative written by Olaudah Equiano in 1789 is believed to be the "silent" second text (i.e., the original model) for Frederick Douglass's well-known 1845 narrative. As Gates noted, "[through] this process of imitation and repetition, the black slave's narrative came to be a communal utterance, a collective tale, rather than merely an individual's autobiography" (p. x).

As communal utterances and collective tales, second texts connote a shared intent among two or more authors. And indeed, this was the case according to Gates (1987):

> Each slave author, in writing about his or her personal life's experiences, simultaneously wrote on behalf of the millions of silent slaves still held captive throughout the South. Each author, then, knew that *all* black slaves would be judged . . . on this published evidence provided by one of their number. The slave authors therefore had to satisfy the dual expectations of shaping the random events of their lives into a meaningful and compelling pattern, while also making the narrative of their odyssey from slavery to freedom an emblem of every black person's potential for higher education and the desire to be free. (p.x)

But what happens when two or more authors do not share the same intent? Can there be a communal utterance or collective tale in such an instance? Or must one author's version of a text take precedence over another's? If so, is the "silent" second text (i.e., the original) the privileged text? These questions give rise to an interesting set of issues that I will explore next through an intergenerational case study involving Katherine Borland and her grandmother, Beatrice Hanson. Borland (1991), who was a doctoral candidate at Indiana University when she wrote *"That's not what I said": Interpretive conflict in oral narrative research,* took the first half of her title from a statement that her grandmother made after reading an initial version of Borland's study. So that the issues become clear, let me try to summarize the study.

On a summer afternoon in 1944, at the harness races in Bangor, Maine, Beatrice Hanson engaged in a lively verbal wrangle with her father as they vied to pick the winning horse. Forty-two years later, Beatrice vividly recalled the events of that day for her granddaughter, Katherine Borland. Because oral narrative research is conducted in a conversational setting, both parties took turns talking, which meant that Beatrice and Katherine alternately shaped and interpreted the narrated event through their own sets of experiences. Later, after Borland (1991) had analyzed their recorded conversation for recurring patterns of talk, she gave a copy of her interpretation of the narrated event to her grandmother, who rejected it out of hand.

Borland, by her own admission, had interpreted the racetrack narrative from a feminist's perspective. Her grandmother, who did not share that perspective, wrote a 14-page letter to Katherine in which she questioned her granddaughter's right to speak for her. In Beatrice's words:

> So your interpretation of the story as a female struggle for autonomy within a hostile male environment is entirely YOUR interpretation. You've read into the story what you wished to—what pleases YOU. That it was never—by any wildest stretch of the imagination—the concern of the originator of the story makes such an interpretation a definite and complete distortion, and in this respect I question its authenticity. The story is no longer MY story at all. The skeleton remains, but it has become your story. (Borland, 1991, p. 70; emphases in the original)

The issue that this conflict raises is one of interpretive authority. In short, who owns the text? Is it Beatrice? As the originator of the narrative, is it her version that we should believe? Should her "original" (the second text if you will) be privileged over her granddaughter's interpretation?

I think not. I tend to agree with Borland (1991) in her analysis of the situation, although I am also open to other points of view on the issue of interpretive authority.[2] As Borland sees it, she has not betrayed her grandmother's narrative even though her intrusion into the text has made it *her* story. Claiming that the patterns on which she based her interpretation existed in her grandmother's narrative, Borland argues for the right to point out certain features and make certain connections, even if doing so results in an interpretation that differs from the original narrator's intentions. In Borland's words:

> Presumably, the patterns upon which we base our interpretations can be shown to inhere in the "original" narrative, but our aims in pointing out certain features, or in making connections between the narrative and larger cultural formations, may at times differ from the original narrator's intentions. . . .
>
> To refrain from interpretation by letting [our collaborators] speak for themselves seems to me an unsatisfactory if not illusory solution. For the very fact that we constitute the initial audience for the narratives we collect influences the way in which our collaborators will construct their stories, and our later presentation of these stories—in particular publications under particular titles—will influence the way in which prospective readers will interpret the texts. (p. 64)

If we accept Andrew Gitlin's (1990) notion that "the telling of a story is not the rendering of facts, but rather the putting together of a plot that imposes meanings on the events reported" (p. 460), then I think we might find Borland's interpretation a compelling one. That Borland sees herself as an interpreter, and not merely a recorder, of her grandmother's story is clear. For example, Borland (1991) describes Beatrice as framing the narrative, and herself as *reframing* that narrative during the interpretive process. To Borland's credit, she includes both versions of Beatrice's story, thus making it possible for prospective readers to bring their own histories and experiences to bear on understanding the issue. I see this process of reframing second texts, though different from the one used in writing slave narratives, as yet another step forward in sharing interpretive authority.

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[2] For a discussion of these views see James Clifford and George E. Marcus (Eds.). (1986). *Writing culture: The poetics and politics of ethnography.* Berkeley: University of California Press. Also see Joan Acker, Kate Barry, and Johanna Esseveld (1991). Objectivity and truth. In Mary Margaret Fonow and Judith A. Cook (Eds.), *Beyond methodology* (pp. 133-153). Bloomington: Indiana University Press. Finally, for a discussion of the nonauthoritative research voice, see Shulamit Reinharz (1992). *Feminist methods in social research.* Oxford, England: Oxford University Press.

But what if we were to embrace Beatrice's fundamentalist view that a text means what an author intends it to mean? Viewed from this perspective, Beatrice's intentions would be privileged over her granddaughter's interpretations. However, as Lorri Neilsen has observed (personal communication, November 19, 1992), perhaps the question is not *whose* version is privileged but rather, "For what purposes are the stories used and by whom?" The question becomes an ethical one. Is it possible, as Neilsen suggests, that Borland exploited her grandmother's story to make a point? Did *you*, in fact, interpret Borland's account of Beatrice's story as being exploitive in nature? According to Cleo Cherryholmes (1993), when we interpret research, our own "reading cannot be ethically neutral [for] interpretation requires choices and choices cannot be made without reference to values and preferences" (p. 36). Ironically, attempts to achieve neutrality may simply work to keep us uninformed (Tierney, 1992).

Ultimately, what seems clear to me is the importance of making public the "silent" second texts that inform our scholarly writing. Whether or not these second texts reflect a shared intent among authors is immaterial. Individuals who read our research deserve to know about the choices we made among interpretations as well as the values and preferences that drove us to those choices. Making such information available to readers reminds me of Shulamit Reinharz's (1992) argument that it is important to bear in mind that "what is conventionally called an objective social science stance is actually a particular view from a particular standpoint" (Reinharz, 1992, p. 228; see also Krieger, 1983).

Having said as much, what might count as "silent" second texts from my own research? I believe the best example comes from a new year-long collaborative classroom observation study that Rick Umpleby, Jim Olson, and I are still in the process of writing up. The "silent" second texts are Rick's basic-track ninth-grade students' written responses to the "Flour Baby Project," an idea sponsored by CBS television and promoted in *SCOPE* magazine. As its name implies, the "Flour Baby Project" made use of 5-pound sacks of flour to which students attached stuffed stockings for the make-believe babies' heads, arms, and legs. Then, for 1 week students were expected to care for the flour babies on an around-the-clock basis, both in and out of school. The purpose of the project was to discourage students from becoming teenage parents by having them reflect on the tremendous responsibilities of parenthood.

Because Rick, Jim, and I were interested in studying how basic-track students respond to highly imaginative writing assignments, the "Flour Baby Project" seemed a made-to-order activity. However, when we collectively wrote the first several drafts of a manuscript describing what we had learned about students' hesitancy to elaborate on ideas in their written assignments, we made no mention of comments like "I don't hate being a parent [to the flour baby]. I like being a parent. I'm already going to *be* a parent." And from another student—a young 15-year-old male—"My biggest weakness as a parent would be someone telling me I'm not treating [my baby] right. I would have trouble with people wanting to take her away."

Why include these "silent" second texts in our next draft? To do otherwise is to deny future readers of our research potentially valuable information. Readers will need to decide for themselves the degree to which our own lack of firsthand experiences as teenage parents influences our interpretation of Rick's students' hesitancy to respond to what we deemed a highly imaginative writing assignment. More pointedly, who are we to say that teenage parenting, as a writing topic, seemed all that "imaginative" to Rick's basic-track students?

Cultural Representations

One of the principal things researchers do is write. We write to represent what we have come to understand through our research. More than likely what we write, therefore, is an incomplete or partial translation of the reality of others. To paraphrase only slightly an anecdote told by James Clifford in his introduction to *Writing Culture* (Clifford & Marcus, 1986):

> [Researchers] are more and more like the Cree hunter who (the story goes) came to Montreal to testify in court concerning the fate of his hunting lands in the new James Bay hydroelectric scheme. He would describe his way of life. But when administered the oath he hesitated, [saying], "I'm not sure I can tell the truth. . . . I can only tell what I know." (p. 8)

But to tell only what *we* as researchers know is to labor under the assumption that we can represent accurately the culture of classrooms and the literacy instruction that goes on within those rooms. The fallacy of this assumption is ever present in the growing number of critiques by individuals like Leslie Roman and Linda Christian-Smith (1988), Patrick Shannon (1989), and Valerie Walkerdine (1990) who challenge researchers' authoritative voices and voyeuristic practices.

Having dealt with interpretive authority in the previous section of this paper, I focus here on coming to terms with the voyeuristic aspect of our research, and in particular, its consequences for observational research. To this end, Valerie Walkerdine's (1990) work is especially helpful. "Observation, like all scientific activity," she writes, "constitutes a voyeurism in its will to truth" (p. 173). It is this will or desire to know, not the intrusiveness of observation per se, that is problematic. For as observers of teachers and students engaged in the culture of literacy teaching and learning, we become what Walkerdine terms "Surveillant Others" who not only watch but also produce written records meant to inform the policies and practices regulating those whom we observe. Thus, the political implications of our research are indeed strong.

Thomas McCarthy, in the April 1992 issue of *Ethics*, expresses a similar concern about the political consequences of observational research. "Cultural representations," he says, "help form the images we have of others; if assimilated by those others, they help form the images they have of themselves as well. They get embodied in institutions and inform policies and practices" (p. 641).

How to account for one's presence as a "Surveillant Other" is an issue occupying much of the current postmodernist debate on cultural representations (Khare, 1992). Merely inserting ourselves into our texts—for example, disclosing who we are, the problems we encountered, and the contingencies we dealt with in doing our research and preparing it for publication—is not enough. We cannot count on such behind-the-scenes prose to dismiss the power differentials that concern Shannon (1989), McCarthy (1992), and Walkerdine (1990). According to Walkerdine: "Together, observer and observed constitute a couple in the play of power and desire. We therefore need to examine the response of the observed to their experience of surveillance" (p. 195).

Although I have been unable to locate a single literacy study in which researchers systematically inquired about students' responses to being observed, I do know from my own work that opportunities for such inquiry exist, and in fairly good number. For instance, in reviewing my field notes from a semester-long observational study conducted 3 years ago of 11th graders' understanding of what it means to be labeled "at risk" of dropping out, I discovered no fewer than 24 such opportunities. Through questions and comments like the following, students were opening the door for inquiries into how they experienced my presence as observer:

> February 7, 1989—Before class today, Lafayette stopped me as I made my way to my seat in the fourth row, three seats from the back. "What are you studying?" he asked. I answered him truthfully, but I did not ask how he felt about being studied.
>
> February 21, 1989—Students were role-playing as they read aloud from *Requiem for a Heavyweight.* Toledo, one of the better readers in the group, was putting lots of expression into her role as the doctor. Several members of the class turned around to look at me. I smiled approvingly, but I never thought to ask them later why they were interested in my reaction to Toledo's reading.
>
> March 9, 1989—Dexter, a new boy in class, stood squarely between my desk and Vicky's desk shortly before class began. He interrupted Vicky, who was paging through a jewelry catalogue: "You tell the lady what you called me—how you cussed me out—called me a _____!" Vicky looked at me, laughed softly, and shrugged like she didn't know what Dexter was talking about. Dexter said, "You know you did! If you say it again, she'll [referring to me] write you up." The second bell rang, and I dismissed the incident as unrelated to the study's purpose.

These missed opportunities, on my part, to find out what the students whom I was observing thought about being observed still concern me. What would I have learned? Would I have represented the culture of the classroom differently had I known what the students were experiencing and thinking in their role as the observed? Undoubtedly so, for as Thomas McCarthy (1992) points out in his essay on *Doing the right thing in cross-cultural representation,* when we provide space for others whom we represent to contest our representations, there will be marked changes in the way we—the Surveillant Others—go about our observations and write up our reports.

Conclusion

In researching the literal of muted voices, second texts, and cultural representations, I have argued in favor of scholarly writing that makes overt our histories, gender, beliefs, values, preferences, and cultural assumptions. In making this argument, I have tried to show how questioning privileged ways of writing and knowing, sharing interpretive authority, and coming to terms with certain voyeuristic aspects of observational research can provide a fuller and richer written account of all that we study. I hope for a few of you, at least, the challenge of writing in a manner that is more accessible and self-revealing will seem worth the effort. For granted it will take effort, and, I suspect, cause more than a little discomfort at times.

But surely the discomfort will be no greater than that which we have imposed on others, in the past, in our attempts to be objective. To quote from Sandra Harding's (1987) more graphic representation of the same idea, "We need to avoid the 'objectivist' stance that attempts to make the researcher's cultural beliefs and practices invisible while simultaneously skewering the research objects' beliefs and practices to the display board" (p. 9).

In closing, perhaps like some of you, I am not at all certain I *can* be successful in writing research reports that lay bare the influences that have shaped my work. I am willing to try, however, believing like J. Elspeth Stuckey (1991) that "the most likely way change will ever happen is incremental, local, one person at a time" (p. 126).

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ASSESSMENT AS SOCIAL PRACTICE

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My intention in this review is not so much to summarize as to contextualize: to paint a broader picture of assessment, looking at the larger currents within which assessment is situated, paying selective attention to smaller streams and eddies within the literature. I shall focus as much on the uses of language as on the "findings" of particular studies. Excellent summary reviews can be found elsewhere (Calfee & Hiebert, 1991; Herman, 1992).

The problem with writing a review of research on literacy assessment is deciding what will count as *research, assessment, and literacy.* Indeed, these domains are united by tensions and shifts in definition that have common roots. At the outset, I should say that in this review I will reject the widespread tendency to cast assessment as a technical enterprise involving the refining of tools and procedures. Instead, I view assessment as a set of interpretive and representational practices underlain by cultural beliefs, organizations, and relationships. Assessment has to do with how we know and represent ourselves and each other as literate individuals and as a literate society. Variations of the position I am adopting are beginning to emerge in the research on assessment (Carini, 1988; Cherryholmes, 1988; Moss, 1992).

Deep Tensions

A review of the *Journal of Reading Behavior* (now subtitled "A Journal of Literacy"), *Reading Research Quarterly,* and NRC presidential addresses shows an extraordinary shift over the last 10 years in the construct that is the object of assessment. The construct represented at NRC has moved from *reading* (not literacy or even writing) to *literacy,* seen as a complex set of cultural interpretive and representational practices. We have come to see that literate practices are socialized: that literate cognition derives from literate social practices (Cook-Gumperz, 1986; Myers, 1992; Vygotsky, 1978). The increasingly prevalent post-modern perspectives on language assert the multiplicity of meanings, the active constructive nature of meaning making, and the relational, intertextual, nature of language (Hartman, 1991; Short, 1992). Indeed, literacy is now seen as fundamentally social if for no other reason than that it involves language, and language necessarily involves relationships (Volosinov, 1973). These shifts in the discourse of NRC are neither minor nor temporary.

But if the construct "literacy" has changed, so has the construct "research"—what it means to do research and what counts as acceptable research. There are changes in the relationship between researcher and researched, and between knower and known, changes in the purpose of the enterprise from truth seeking to meaning making, and a realization of the interpretive and value-laden nature of scientific activity. This shift is evident in NRC yearbooks and journals (Baldwin et al., 1992), NRC membership (with increasing numbers of teachers), and conference session organization (e.g., Allen, Buchanan, Edelsky, & Norton, 1992). Similarly, in the broader context, the *Educational Researcher* has featured conversations about these issues for a decade, and recent AERA presidential addresses suggest that these changes are no less significant than those in literacy. "Literacy" is not what it used to be, and neither is "research" or "science." Indeed, these changes are evident well beyond *educational* research (Keller, 1985; Knoblauch & Brannon, 1988).

As with seismic activity, underlying these shifts are major tensions. The fault line I have shown in Table 1 stretches well beyond literacy and research. These tensions are important to assessment because of their relevance to validity—both construct validity and consequential validity, now the central pillars of validity theory (Messick, 1989; Moss, 1992). Indeed, the new prominence of consequential validity asserts the relevance of the parallel tensions in the domain of ethics (Tronto, 1987).

Tensions in Assessment

Until recently, assessment barely felt these tensions. In spite of changes in our understanding of literacy toward the social, intertextual, and multivocal, mainstream assessment remains singular and individual, essentially denying its social and political character. In spite of the diversity of research perspectives represented at the annual conferences, assessment, a kind of research, has remained remarkably singular, almost synonymous with psychometrics. Indeed, tests, although a relatively limited genre in the broader assessment picture, have been the focus of most work identified as related to assessment (Calfee & Hiebert, 1991). Reflecting this, the APA/AERA/NCME joint committee "Standards" (1985) apply only to tests. Even though a broader conception of assessment that includes teachers as assessors is often noted in definitions (Cronbach, 1988; Messick, 1989), it is generally left out of theoretical discussions (but see House, Mathison, & McTaggart, 1989). Assessment, more than any other domain of education is resisting movement away from technological thinking.

Nonetheless, there is movement. In the context of literacy assessment, construct validity involves studying what we think it means to be literate and how that is represented in our assessment practices. Construct validity has moved to center stage highlighting the fact that current tests do not capture the complexity of literate activity as it is now understood. This has led to attempts to produce "alternative" tests that are "authentic" and "performance-based" reflecting "real' literate learning (Linn, Baker, & Dunbar, 1991; Wiggins, 1989). These efforts have intensified the tension between reliability and validity. The more complex and authentic the construct being assessed, the less likely it is that raters will agree on the value of students' performances (Linn, Baker, & Dunbar, 1991; Shavelson, Baxter, & Pine, 1992). Training raters helps, but does not solve the problem (Cizek, 1991), and the higher the stakes for individuals, the more problematic this becomes in a highly litigious, meritocratic society. In addition, the more complex the construct, the more difficult and time consuming (not to mention expensive) it can be to obtain a representative sample of performance.

Efforts have been made to legitimize the "qualitative" in assessment (Cambourne & Turbill, 1990), but with limited success. Assessment is the plane of contact between massive cultural forces, and the slow change is due to friction with the logic and language of the mainstream which comes from, and preserves, privilege.

Table 1

Basic Conflicts

Science—Knowledge	
Science as truth-finding	Science as sense-making
Knowledge is separate from knower	Knowledge is inextricable from knower
Morally and politically neutral activity	Morally and politically laden activity
Relationship between researcher and researched is nonreciprocal, noninvolving	Relationship between researcher and researched is reciprocal and involving
Truth takes the form of decontextualized abstract principles	Sense takes the form of contextual local, specifications
Knowledge is made by those who are certified to do so using specific techniques	Everyone is involved in making knowledge
Writing is expository in form and passive in voice	Writing emphasizes narrative and active voice
Language reflects reality and is morally neutral	Language represents reality, and is thus morally laden
Ethics—Morality	
Morality as fairness	Morality as caring
Self as separate	Self as connected
Morality takes the form of decontextualized, abstract principles	Morality involves the activity of care with real people in real contexts
Moral development involves understanding rights and rules	Moral development consists of understanding responsibility and relationship
Literacy	
Individual and psychological	Social and cultural
Composed of formal, culturally neutral structures and rules	Composed of informal, culturally laden practices and relationships
Development involves direct teaching of hierarchical skills, rules, and structures	Development involves socialization of cultural practices
Univocal	Multivocal
Textual	Intertextual

Note. These dichotomies are gross caricatures made in order to compress a great deal into a small space. The sides are often not either/or. For example, the "morality as fairness and abstract principles" folk do not deny the existence of the "morality as caring and contextualized narrative," they argue rather that it has limited applicability and is appropriate for the private, local domain rather than for the broad, public domain. For greater detail see Keller (1985), Knoblauch and Brannon (1993), Noddings (1984), and Tronto (1987).

Language and Privilege

Not only is assessment an act of privileging certain values (Marvin, 1988; Messick, 1989), but the language of writers in the field of assessment privileges certain groups and processes and reflects social power inequities. Take, for example, the framing of the lead article by Thomas Haladyna and his colleagues (1991) in the *Educational Researcher* entitled "Raising standardized achievement test scores and the origins of test score pollution." This paper certainly contributes to an understanding of consequential validity. However, from a wide range of serious problems in test use identified by these authors, they elect to "restrict the discussion of pollution to two factors under the control of school personnel" (p. 4).

Their focus primarily on teachers is not only problematic, but symptomatic. Although they strongly protest as "unethical" teachers' use of test preparation programs, they do not protest, even as a threat to validity, let alone as unethical, the *production* of these programs or the tests themselves. Indeed, teachers' "unethical" efforts to align curricula to the content of particular achievement tests are singled out as "less obviously *unethical* (and so perhaps more *insidious*)" (p.5). The part played by those outside the schools is "*invalid*" and not worth examining because it is likely to continue.

These same data could be framed differently as follows:

> Because teachers have no control over the unethical and manipulative use of tests not aligned with school curricula, they attempt to make the tests more valid by aligning the curriculum (over which they have some control) with the tests in order to protect their students. The *production* and manipulative *use* of these tests thus pollutes the curriculum.

Notice that in the original, the technology itself is not under scrutiny because "the general public, the media, and politicians view standardized achievement test performance as . . . *the single most important index of educational effectiveness*" (p. 6, emphasis added), a presumably "ethical" stance which, they assert, will not change (and is therefore acceptable?). These authors' use of language is neither trivial nor rare.

Privilege and Progress

Teachers' legitimacy as researchers of their students' learning and of their own practice is increasingly being established (Connelly & Clandinin, 1988; Lytle & Cochrane-Smith, 1992), though not without challenge (Manzo, 1988). In the field of assessment there is considerable skepticism even among the most supportive. For example, Bob Calfee (1992) commenting on the "'anything goes' air" of many of the "alternative" classroom assessment proposals notes that teachers' classroom assessment is "a process that *in many ways parallels* the work of an applied researcher" (p. 213, emphasis added). Bob Linn and his colleagues, at the forefront of change in psychometrics, similarly diminish the teachers's role as primary assessor by referring to the development of teachers' understanding as an "incidental," not central, benefit of portfolio assessment (Linn, Baker, & Dunbar, 1991).

This social power difference, reflected in and perpetuated through the language, has serious implications. For example, although qualitative research has acquired increased legitimacy, most of the work focused on qualitative assessment has been confined to "classroom assessment." The logic is clearly described by Lorrie Shepard (1989), also at the forefront of change in psychometrics. Shepard contrasts "large scale" (public) and "classroom" (private):

> Large-scale assessments must be formal, objective, time-efficient, cost-efficient, widely applicable, and centrally processed. Most important, results must be in a form useful to policymakers, which usually means reducing complexity to a single score. In contrast, assessments designed to support instruction are informal, teacher-made, adapted to local context, locally scored. . . . Classroom tests and observations do not have to meet the same standards of accuracy. (p. 7)

This proposal involves making a case for a "separate but equal" status for classroom assessment practices, invoking separate rules and values for separate realms of assessment.

On the face of it, this proposal seems productive. However, the context of privilege within which it occurs is critical. Certainly the public/private distinction with its attendant privileges is not new to those concerned with gender issues (Gilligan, 1982). Indeed, many of the assessment-related dimensions of knowledge and ethics described in Table 1—the private, narrow and special, not to mention the emotional—have been used to maintain through assessment an apparently "natural" patriarchal power structure. But these characteristics are socialized and related to roles more than gender, thus we get racial and gender similarities that reflect experiences of oppression rather than of genetic composition (Snodgrass, 1992).

In this context, it accomplishes little for those writing from the perspective of the privileged position to concede equality when the social context, including the language of assessment, ensures the continuation of their privilege. Current writing on new approaches to assessment promotes "alternative" assessment. Indeed, the language of teachers themselves maintains their secondary assessment status. Classroom assessment practices are referred to as "informal," "subjective," "anecdotal," and "impressionistic" all with the implicit prefix "merely." Such observations are not accepted as knowledge until "tested" or "validated" with approved "objective" tests. "Separate but equal" will only be a pretense, while the perspectives are aligned with other social power inequities such as those based on gender.

Furthermore, each perspective allows us to ignore important matters. Thus, on the one hand we have advocates of tests and the technological perspective arguing that their approach protects individual rights (Cizek, 1991) while at the same time facing evidence, and occasionally admitting, that tests cannot be unbiased, and are essentially acts of cultural oppression (CAT/5 Technical Bulletin 1, 1992; Marvin, 1988). On the other hand, the advocates of classroom assessment argue for contextualized, personalized approaches to assessment rarely conceding the significance of individual and cultural biases and their consequences (e.g., Johnston, 1990). Both groups pretend that literacy and assessment are not bound up in relationships and culture. One group does so in order to protect its assumption that people are naturally inferior to technology. The other group does so to protect their assumption that all teachers are caring and unprejudiced.

Pressures on Privilege

Two major pressures are currently working to break down the privileging that takes place in assessment. The first is the realization that tests and teachers have a lot in common. Teachers are beginning to be taken seriously as assessment instruments in *measurement* journals (Tittle, 1989) and prominent recent reviews have focused on classroom assessment (Calfee & Hiebert, 1991; Crooks, 1988; Dorr-Bremme & Herman, 1986). Furthermore, although Samuel Messick (1989) in his most detailed treatise on validity uses terms from testing, he generalizes them to include classroom assessment by teacher and student. For example, to Messick, "test score" refers to:

> any observed consistency, not just on tests as ordinarily conceived but on any means of observing or documenting consistent behaviors or attributes. (p. 13)
>
> [*scores*] refer as well to judgmental consistencies and attributes of groups, situations or environments, and objects, . . . evaluative stress, and quality of artistic products. By and large, the principles of validity and validation . . . may, and ordinarily should, apply to all of these instances. (p. 14)

Although there is little trace of this statement or its consequences in the rest of the paper, reflecting the privileging already described, nonetheless it has important implications. First, teachers and students, and the process of assessment in the classroom acquire at least the same status as tests and testing. Second, psychometricians, their apparent neutrality removed, acquire the same status as teachers. Teachers become tests, and psychometricians, through tests, become teachers.

Along with Messick's work, Lorrie Shepard (1991) has provided a key study for leveling the playing field. Shepard examined psychometricians' views of learning, revealing the technological (largely behavioristic) thinking that underlies current assessment practices. But this study does more. It reveals that the thinking of those who produce tests is socialized.

The second pressure on psychometric privilege comes from increased theoretical and empirical attention to consequential validity—the political, social, and personal consequences of assessment practices (Allington & McGill-Franzen, 1992; Crooks, 1988; Herman & Golan, 1991; Mathison, 1987; McNeil, 1988; Paris, Lawton, Turner, & Roth, 1991; Smith, 1991; Taylor, 1990). These studies have produced a realization of the social nature of assessment which was reinforced with documentation of the "Lake Wobegon effect"—the observation that test scores show every state to be performing above average (Cannel, 1988; Linn, Graue, & Sanders, 1990). This discovery simultaneously foregrounded the conflict between the demand to produce gains on norm referenced tests, and the disbelief that follows any such gains within an untrusting relationship. This is evident at both the school level and at the level of individual teachers whose classes have statistically improbable aggregate test scores (Smith, 1991). The relationships among the participants seem to matter more than the technical characteristics of the assessment procedures.

Considering the full import of these new understandings requires that we examine teachers and students as assessment instruments, and consider the socialization and social context of all assessment instruments. Most of the relevant work has not been classified as "assessment research," and space does not allow more than suggestive treatment of it. But a brief consideration of research on students and teachers as assessment instruments and on the social nature of assessment seems in order.

Students as Assessment Instruments

Self-assessment is pervasive and motivationally critical (Paris & Winograd, 1990; Zimmerman, Bandura, & Martinez-Pons, 1992). Barbara Stipeck and her colleagues (Stipek, Recchia, & McClintic, 1992) point out that young children are generally not dependent on external assessments. They show pleasure in their accomplishments without being praised. Indeed, prior to age 2 their interest in praise is limited. Nonetheless, children whose mothers set a large proportion of their goals for them are more likely to look up at them after finishing a task. Children under 2 years old are quite resistant to self-assessments of failure. If they have difficulty with a task, they simply transform it into one they can manage.

In their early years, children have an undifferentiated notion of "ability." Although some 3½-year-olds can be made interested in peer comparison, a normative self-assessment framework is largely socialized in school. In classrooms that foster such comparisons, it is socialized quicker than in those that do not (Miller, 1988).

This normative framework, reflective of the most common school assessment practices, has serious drawbacks particularly for children perceiving themselves as having low ability. Such perceptions produce helpless behavior (Diener & Dweck, 1978; Elliot & Dweck, 1988), reduce intrinsic interest on achievement tasks (Mac Iver, Stipek, & Daniels, 1991), and induce unproductive strategies such as applying low effort or setting unattainable goals (Covington & Beery, 1976). These consequences of a normative notion of "ability" are particularly marked in "performance" or "ego-involving" situations (Nicholls, 1989). Karen Dahl and Penny Freppon (1991) have demonstrated these conditions and consequences in first graders' literate development. "Less able" students in a normative, technical literacy classroom quit when they encounter difficulties. By contrast, similar students in less normative, more complex literate contexts do not.

Classroom organization and discourse help socialize children's development of the constructs and standards they apply in their self-assessment. for example, children asked "what kind of reader are you?" bring different criteria to bear depending on their classroom situation (Spiro & Johnston, 1989). Some bring a simple normative framework and respond "I'm pretty good" or "Not so good," whereas others bring a more complex framework and respond, for example, with "I mostly read fiction or books about horses." These distinctions are becoming well documented (Rasinski & DeFord, 1988; Reif, 1992; Wolf & Perry, 1988). The criteria children apply to their self-assessments—what it means to be literate and what it means to be able—are socialized.

Construct and consequential validity are inseparable, and the orchestrator of this socialization is the classroom teacher. Different constructions are not simply "valid" (accurate) or "invalid," but differentially *valued* and with different consequences.

Teachers as Assessment Instruments

Teachers' constructions of literacy and of children focus their evaluative and instructional responses to students' literate efforts (Edelsky, Alwerger, & Flores, 1991; Page, 1987; Richardson, Anders, Tidwell, & Lloyd, 1991). Thus they are a crucial part of students' constructions of themselves as literate beings, and hence of their self-assessment. Teachers' and students' assessments are thus both social process and product.

The classroom teacher is the primary assessment instrument for special education placement, a fact recognized by Michael Gerber and Melvin Semmel (1984) in a paper entitled "Teacher as imperfect test." Indeed, at least three out of four students referred by teachers for special education placement are classified (Algozzine, Christenson, & Ysseldyke, 1982; Mayor's Commission on Special Education, 1985; Pugach, 1985). Examining teachers as assessment instruments, Kathy Broikou (1992) found that some teachers refer more students to special education than do others. Low referral teachers provided more detailed and personal assessments of students' literacy development than did high referral teachers. Interestingly, the greater the technical and bureaucratic control within which teachers work, the less likely they are to be able to provide detailed assessments of their students (Johnston, Afflerbach, & Weiss, 1993).

The constructs teachers invoke in the process of assessment are rooted in their own language and experiences and are accomplished within social and institutional structures. Teachers' assessments (like tests) reflect the larger social and cultural context, warts and all. Yet although an entire domain of assessment research is devoted to the elimination of bias in tests, and even test manufacturers are beginning to understand that this can never be accomplished (e.g., CAT/5 Technical Bulletin 1, 1992), research on reducing bias in teachers' ongoing assessments is barely recognized as being relevant to assessment. A recent example of such work is a study by Cynthia Ballenger (1992) describing her efforts to overcome her own biases in dealing with the immigrant Haitian community. She stressed the value of situations that allowed her to make their unfamiliar cultural patterns familiar and to make her own cultural patterns unfamiliar. In the process, she was struck by the "powerful individualism" underlying her own teaching and her assessment of her students.

As a technique for examining (and resocializing) biasing influences, this opens up the research on teachers as researchers and research communities (Carini, 1988; Kincheloe, 1991; Lytle & Cochrane-Smith, 1992; Schon, 1983) and on teacher self-assessment (Kilbourn, 1991). More importantly, however, it highlights the uniqueness of the teacher as an assessment instrument. As Joe Kincheloe (1991) points out:

> Humans, unlike [other] research instruments, can perceive holistically . . . can see connections between the disparate parts; only humans can grasp and perceive dominant themes in the ostensibly unrelated remnants of the socio-educational fabric. Human inquirers can extend knowing to a higher level through their capacity to grasp the realm of the felt, the emotional, the unconscious. . . . Unlike empirical instruments, humans can synthesize information, generate interpretations, and revise and sophisticate those interpretations at the site the inquiry takes place. (p. 29)

Perhaps rather than lamenting the imperfections in the instrument, we should devote more attention to celebrating, and capitalizing on, the power of the instrument.

Assessment and Culture

As we have seen, both teachers and tests are shaped by cultural socialization processes and operate within cultural contexts. But what is the nature of the culture that socializes and contextualizes? What does it mean, for example, that those most responsible for assessment, teachers and psychometricians, are singularly middle class? Schneider and Smith (1973, cited in Bellah et al., 1985) note that the middle class considers "individual and social behavior as predominantly determined by the application of technical rules to any situation that arises" (p. 151). This technical rationality, also the mainstay of the corporate capitalist economy (Shannon, 1989), allows the apparently value-free instrumental control of individuals in less powerful positions through testing (Marvin, 1988).

Also part of this technical rationality is a belief in competitive individualism (Schon, 1983) that appears endemic to middle-class American society (Bellah et al., 1985). This is bluntly present in current assessment practices, but also, as Cynthia Ballenger (1992) points out, less obviously part of teachers as assessment instruments. John Nicholls (1989) suggests that such practices are well adapted to socializing an underclass to assess *themselves* as unable, and thus to accept without challenge their share of unequally distributed power and wealth.

Technical rationality is inseparably tied to the morally neutral, objective, asocial notion of science that supports the bulk of current assessment research. Its uncontested application to literacy assessment requires a similarly technical, acultural view of language and literacy. This collection of beliefs is necessary because, as Bellah and his colleagues point out:

> For those oriented primarily to upward mobility, to "success," major features of American Society appear to be "the normal outcome of the operation of individual achievement." In this conception, individuals, unfettered by family or other group affiliation, are given the chance to make the best of themselves, and, though equality of opportunity is essential, inequality of result is natural. (p. 149)

Without these complementary beliefs, the "inequality of result" looses its transparent naturalness. Thus, the failure of assessment to follow the shifts seen in the domains of science, literacy, and ethics might have to do with what is at stake. If the cultural neutrality of literacy alone were confronted in assessment, current standardized testing practices would become overt rather than covert cultural oppression. The primary means of social stratification would be exposed.

Assessment involves a negotiation of ways of talking about students, literacy, schools, and so forth (Henry, Dickey, & Areson, 1991), which makes the language of assessment critical. Indeed, a democratic society is not democratic unless there is real negotiation of goals and meanings. But if negotiation is to take place, assessment cannot be in a language of technology, of separation and privilege (Bruner, 1985). Neither can real negotiation take place within unequal power relationships. If school assessment practices deprive students (and their teachers) of the development of independent judgment and social commitment, then they ultimately deprive the society of the necessities of a democracy.

There are two primary functions of assessment: optimal learning for all, and a just society. Achieving the former (centrally dependent on teachers as assessors) would accomplish most of the latter. To make serious progress toward this goal, we need a contextualized theory of assessment that is grounded as firmly in moral and social theory as it is in theories of language, literacy, learning, and caring. As long as assessment is discussed within a technological framework, it is essentially a convenient distraction from the real social issues.

The technical rationality that underlies current assessment is beginning to fray at the edges and tear at the seams. In fact we have hold of threads that would unravel the entire fabric if only people would pull them harder. But the fabric is woven of the strongest cultural material, and the people holding the threads are being kept warm by the fabric. We have assessment that is based on power relationships inherent in an organized system that is embedded in, and a reflection of, societal relationships, and we have beliefs about science that have been sustaining the whole edifice. To ask for real change in assessment, as many are doing, is to ask for a change in society—in the social order.

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LANGUAGE AND LEARNING: EXPLORING SCHOOLING ISSUES THAT IMPACT LINGUISTICALLY DIVERSE STUDENTS

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This paper presents a brief sketch of issues and dilemmas faced by linguistically diverse students in schools today and focuses on language acquisition, proficiency, use across contexts, instruction, and policies. The students whose school lives this paper highlights are identified by a wide range of terms: ESL students, second-language learners, limited English-proficient students, language-minority students, bilinguals, non-English speakers, monolingual speakers of another language, native X speakers, and so on. The school attendance of these students is not, and has not been, restricted to the southwest or to urban settings, as many people seem to believe, rather they attend schools throughout this country and their presence in schools is projected to grow even more dramatically over the next decade (Ramirez, 1985).

I will begin by discussing the nature of linguistically diverse communities and the demands that belonging to a bilingual world places on linguistically diverse students. I will then give an example of the schooling trajectory that befalls many of these students. This example will be contrasted with some of the beliefs we hold about the nature of effective instruction, and how education for linguistically diverse students measures up to these beliefs. In the last part of this paper I will explore what it means to become proficient in a second language and finally present some basic premises which provide a framework for developing and assessing programs for these students—a necessity for understanding school failure and for improving instruction.

Language is a major carrier of culture and a principle tool in the development of thought and mind (Mead, 1977; Vygotsky, 1978). For students who live in bilingual environments, therefore, how each language is used, that is, their opportunities to develop competency in each language across a spectrum of content, plays a significant role in their overall cognitive and affective development, both in and out of school (Commins & Miramontes, 1989). Deficit attitudes and perceptions about minority students' language, culture, and homes have a long history in education and have played a principal role in defining the way schools have chosen to approach linguistically diverse students (Edelsky et al., 1983; Crawford, 1989).

Although there are certainly other sociopolitical factors besides language that contribute to the academic difficulties of these students (McDermott, 1981; McGoarty, 1992), in schools, oral expression is the most visible and immediate vehicle for making judgments regarding student competencies. Research has demonstrated that teachers' beliefs and perceptions about language use create expectations and reinforce deficit perceptions about students' cognitive and academic abilities.

Contrary to many stereotypes, linguistically diverse communities are rich and complex in their language use (Delgado-Gaitan, 1986; Heath, 1983, 1986; Zentalla, 1988). This complexity is reflected in how children speak when they come to school and the skills and proficiencies they exhibit there. Relatively few children come to school totally non-English speaking. More likely their lives reflect the lively and dynamic language use illustrated in the following example of Maysee, a 9-year-old Hmong child:

> Maysee dashes into her house and bumps into her grandmother. She greets her grandmother and tells her briefly about her day—in Hmong. She drops her things on the bed in the room she shares with her sister and asks her to come out and play—in English. As she runs into the kitchen to get a quick snack before going outside, her mother asks about what happened in school today. Although she asks Maysee in Hmong, Maysee answers her mother using both Hmong and English to get her ideas across. Outside her friends are enthusiastically engaged in a boisterous game of soccer and Hmong and English ring through the neighborhood.

Maysee is required throughout the day to negotiate meaning in one or the other of her two languages, depending on the situation and context. Given the almost infinite variety of ways in which the home language and English interact, both within linguistically diverse communities and within families, gaps in particular areas of vocabulary and content may occur, depending on the setting and language in which particular information was encountered.

To be a linguistically diverse student means having to function in two languages. This is true because being able to participate fully in the life of home and community requires facility and fluency in the home language. And, participating in school life requires the ability to handle English fluently and academically. The cognitive challenges for these students are therefore far greater than those faced by majority language and culture students.

For all of the supposed attention given to changing demographics and the needs of linguistically diverse students, as little as 6 years ago Olson (1986) reported in *Education Week* that an estimated 84% of eligible language-minority students received no special services whatsoever. In addition, although research evidence indicates that it takes 5 to 7 years or more for students with limited English proficiency to achieve academic proficiency in English (Cummins, 1989; Wong-Fillmore, 1986), services for those students who receive them are typically only funded for 2 to 3 years (Nadeau & Miramontes, 1988).

Instead of expanded services, it seems that more and more children who come to school needing basic instruction in English and in other areas of the curriculum, are hearing teachers saying to them: "If you don't know your letters and your colors, if you don't know how to read and write, if you don't know English, don't come here because that's not what we do here. We don't teach that here. You'll have to go somewhere else to learn that." One wonders where we expect these children to go? And, how we define our jobs as teachers?

Exclusionary attitudes and the policies they generate have very important negative consequences, as most of us are well aware. I think it is useful, therefore, to explore how some of these policies play out in the educational lives and experiences of linguistically diverse students. In order to do this I will use the example of Alfredo, an 11-year-old Latino student. Alfredo's story demonstrates a trajectory of educational experiences which is played out all too often in the educational lives of linguistically diverse students, and, that many of you will undoubtedly recognize.

Alfredo enters school speaking only his home language at kindergarten. there may or may not be possibilities for instruction in Alfredo's first language, but these are not pursued in his education. Alfredo does receive English as a second language instruction—ESL. (ESL instruction might range from 15 minutes three times per week with a tutor to a more fully developed program, such as an hour or so per day with a certificated, trained ESL teacher). Alfredo receives the latter in a pull-out program. There is no guarantee, however, that Alfredo has received literacy instruction since most beginning ESL programs focus primarily or exclusively on oral language.

Because many states limit the funding for providing "special" services for linguistically diverse students, typically to about 2 years, in 2 years, at the beginning of second grade, Alfredo is "exited" out of the ESL program. What is most important at this juncture in Alfredo's schooling is the question of what his regular classroom teacher understands this exit to mean. Given the lack of preparation in first- and second-language acquisition received by most regular classroom teachers, it is not unlikely that his teacher will assume that Alfredo has been deemed to be a proficient English speaker, since he is no longer classified as eligible to receive English as a second language support.

Because he has missed a good deal of classroom instruction by being pulled out for ESL instruction during the reading and languages arts period, in his regular classroom Alfredo is placed in a lower reading group so that he can catch up to the other students. Although 2 years of English as a second language development cannot transform a native speaker of Spanish into a native speaker of English able to function proficiently and exclusively in English across all areas of the curriculum, children like Alfredo are expected to have developed near-native proficiency in English.

After several months, Alfredo's teacher notices that he is not keeping up with his peers in reading. He has a great deal of trouble figuring out new words, is often unable to express himself clearly about the passages read, and does not seem to be making basic connections to the content. By this time Alfredo is speaking only English at school, and in fact most people in the school have forgotten that he originally spoke anything else. As the year progresses the teacher begins to have real concerns. She decides to refer Alfredo to Chapter I. In her referral statement she says that his reading comprehension is very literal and that he seems to have a very narrow vocabulary (Diaz, Moll, & Mehan, 1986; Ruiz, 1990). He is falling behind in other areas of the curriculum, and she says that he does not seem to understand the readings in other textbooks. He often tunes out during class discussions and is very unmotivated. In addition, he does not contribute to discussions.

Now, let us look at some of the assumptions the Chapter I teacher might make about Alfredo. First, it would be a logical, though not necessarily accurate, assumption for her to believe that Alfredo has received a regular initial reading program and therefore has had the necessary opportunity to learn to read in English. Since he speaks only English at school, she would likely assume that he is proficient in English. These assumptions lead the Chapter I teacher to treat Alfredo as though he were a remedial native English speaker (rather than the initial reader he may be, or the second-language speaker of English he certainly is). Since he is not a native English speaker, many of the approaches that might typically be used for native speakers are likely to be inappropriate for him, and many of the experiences Alfredo needs such as opportunities to develop oral as well as reading and writing fluency, and planned instructional experiences with a wide variety of vocabulary and language forms are probably missing (Allington, 1991; Trueba, 1989).

After a couple of years of remedial reading, Alfredo still seems to be making little progress. During this time, the demands of reading have also been going up, the content has expanded and there has been a shift from narrative to expository text. Alfredo seems to have made little progress in his ability either to decode text or to comprehend what he reads. In addition, he continues to have trouble asking and answering questions about the content he has read, stating his position, providing reasons for his thinking, and generally articulating the important ideas to which he has been exposed.

Seemingly, the next logical step is a referral to special education. And, Alfredo is referred. His Chapter I teacher says that Alfredo seems to have auditory and visual memory problems and she is also concerned about his inability to think clearly about what he has read. His classroom teacher reports that when he is not daydreaming he seems very restless and occasionally acts out, clowning around, and disrupting the class.

The special education teacher, being a well-meaning individual, decides that Alfredo needs to be tested in reading and writing in both English and his home language. Although primary-language testing can be very useful for a number of different purposes, the special education teacher fails to reflect on the fact that Alfredo has received little if any literacy instruction in Spanish along with his restricted experiences with literacy in English. Alfredo tests low in both the English and Spanish achievement tests (Figueroa, 1990). From an assessment on academic subjects in a language in which these subjects have never been taught, and from assessments in a second language that has not had a full chance to develop, it is concluded that something is interrupting Alfredo's ability to learn.

Although it is certainly true that something has interrupted Alfredo's ability to learn, it should be clear at this point in his educational career that it has been the pattern of schooling he has received, rather than a disability that is inherent in Alfredo himself. Unfortunately Alfredo is not an isolated case. Daily this type of instruction for linguistically diverse students can be seen in schools throughout this country, where patterns of assumptions held by teachers and specialists lead to inappropriate, unarticulated programs (Trueba, 1989; Shannon, 1990). And, every day, judgments are made about linguistically diverse students' capabilities without consideration for how their educational experiences have helped or hindered their academic development.

Why do we tend to spend so little time in examining schooling experiences as basic factors of school failure for children like Alfredo? Why are we so quick to label such children needy and at risk, implying, not that we are putting them at risk, but rather that they already come with major deficits that will make it difficult for us to teach them, and difficult for them to learn? How do we begin to shift the onus of deficit away from Alfredo, his language, his ethnicity, and his family? Why is that our first line of explanation?

Broad societal perceptions play an important role in the way all students are viewed, and in how programs for them are developed. Although differences need not be equated with deficits, the compensatory orientation to thinking about ethnic and linguistic diversity that has been pervasive in schools, continues to influence educational decisions for minority students (Hiebert & Fisher, 1990; Miramontes & Commins, 1990; Oakes, 1985).

Such theories have a long tradition. At least as early as 1932, George I. Sanchez was speaking against the narrow ethnocentric formulations of school policies that limited opportunities for culturally and linguistically diverse students. Lower middle-class and minority homes have long been perceived to be limited and inadequate language learning environments. They are often viewed as not being able to provide academically oriented experiences for children, and therefore, as promoting faulty patterns of socialization. Finally, these families are perceived to place little or no value on education. Although each of these perceptions have been clearly refuted by the research literature they continue to influence school instruction and policies (Delgado-Gaitan, 1986; Hakuta, 1986; Labov, 1972).

For linguistically diverse students, these deficit perspectives are compounded by deficit views of bilingualism. For many years bilingualism was believed to cause language-minority students' supposed inability to learn. Many bilingual students are still perceived as lacking development and proficiency in two languages, both English and the home language. As Grosjean (1982) has noted, the notions of children having "no language at all" and of "not possessing the means for logical thought" are familiar characterizations of many language-minority pupils in schools today. Again, the research literature is clear on the faulty assumptions reflected in such views (Hakuta & Diaz, 1984; Lambert, 1977; Wong-Fillmore, 1986). Yet, these negative stereotypes and limited vision have led to the development of educational programs focused on compensating for what students are perceived to be lacking. They are based not on the idea that certain homes and patterns of socialization are merely different, but rather that they are fundamentally deficit environments, lacking the ingredients necessary for the development of the skills demanded by a literate society.

Let us look for a moment now at how Alfredo's educational experience squares with what we consider good instruction for "all" children. Most of us believe that: the knowledge and experience children bring to school should be used to expand their educational experiences and schemata; students should be aided by teachers to work in the zone of proximal development; information should be presented in a way that is comprehensible to students; reading should be meaning centered; students should be asked to demonstrate their understanding of what they have been taught; students need to be able to extrapolate and apply that knowledge to new situations; and learning is developmental, that learners learn by doing, and that they are active participants in constructing their own meaning. These beliefs provide the basic principles we feel should guide students' educational development and lead us to expect that certain experiences need to occur if schooling is to be successful.

To put this in concrete terms let us think about the education of a native English speaker. Imagine we were living abroad in China. It would not be acceptable—or even advisable—to most of us to have our monolingual English-speaking children begin initial schooling, including literacy instruction, in Chinese instead of in English. Why is this so?

One could argue that our children would not be able to understand the content of instruction, and that therefore learning would move very slowly and their ability to develop academic skills fully would be inhibited. The language and skills the children had learned at home would not easily transfer to school. For example 6-year-olds would not have access to the knowledge they had acquired in the approximately 17,520 hours of listening in their primary language to rely on in school (as they would if they were receiving instruction in their primary language), or the more than 2,190 hours of practice in speaking in their primary language which Asher (1982) has conservatively calculated for children that age. In fact, their primary-language skills might even be ignored by their teachers.

We would also certainly consider it eminently unfair if, in addition to asking our children to begin all their learning in Chinese, the Chinese teachers taught them as if they were native speakers of Chinese (i.e., assuming the same level of background and experience in the language as they do for native speakers). We would also consider it unjust if the teachers asked our children to compete at the same level as native Chinese speakers, and judged their competence as learners only from a native Chinese-language perspective.

Now, if we were confident that we could fully meet our children's English language and academic instructional needs we might feel that the extra effort on their part would be worth the effort to learn Chinese. But, if we felt that there was a danger that our children would lose their English proficiency, we probably would not risk it. If we had a choice between an all-Chinese language school and an English language school, then, it is likely that we would choose the latter, eliminating many of the problems of basic understanding and allowing our children to make direct use of the language and thinking tools they have been developing at home. If we, ourselves, spoke little or no Chinese, an all-English environment would also allow us to participate fully in our children's school experiences and learning.

Suppose, however, we do not have the option of an English language school for our children, and, we will never be able to return to live in an English-speaking country. What would we want with regard to the education of our children? What would make sense to us? Most likely we would hope that the methods used for native Chinese speakers would be adjusted for our English-speaking children to insure that understanding was occurring. We would hope that attention was paid to teaching our children to develop the ability to converse and express their ideas in Chinese. We would want our children to be allowed time to work in small groups where they could practice and develop Chinese skills without continually having to compete for the "floor" with Chinese speakers. In addition, we would hope that if our children's competence and abilities were being assessed, and judgments were being made about their cognitive and academic potential, the fact that they were in the process of developing language skills in Chinese would be taken into account. And, finally we would be very appreciative if the Chinese teachers supported our home and family life with our children and found ways in which we could participate in school with our children.

Now would we think that our children needed these "special" considerations and approaches because they had deficits? For how long might we expect "special" approaches to their instruction? Would we consider our children ready to compete on an equal footing with native Chinese speakers in school in 2 years? In 4? In 6? How would we feel if teachers and school officials tried to discourage us from speaking to our children in English, the language in which we were fluent? And, how would we feel if the school offered us the possibility of some instruction in English? How might we hope this instruction would be handled?

One major point here is that children do not need primary-language instruction because there is something wrong with them. They need it because it provides them the same basic, normal development provided to English-speaking youngsters in English-speaking schools (Snow, 1989). And yet, bilingual programs that allow full access to cognitive and linguistic development in the first language are considered radical. A second critical lesson is that well-organized and implemented second-language instruction plays a very particular and significant role in the education of second-language students, a point to be discussed later below.

Why does it seem so difficult to extrapolate our theories, ideas, and principles about thinking, learning, and teaching to linguistically diverse learners in this country? A major reason, already discussed, is our tradition of compensatory thinking about diversity. Another reason is the way in which schools function and traditional ways of thinking and doing which simply perpetuate poor programs. In Alfredo's case we clearly saw the trajectory created when unexamined labels and assumptions were blindly followed.

In thinking about what equitable, just education for linguistically diverse students should be, it is important to go back to the question of what it will take for these students to be fully functioning members of their home and school communities. The level of bilingualism demanded of these students across settings requires much more than a broad interpretation of the term bilingual. It is insufficient, for example, for these students to be able to handle social situations in both languages, that is, to be able to get around school and hold social conversations with others (Cummins, 1989). And, although social discourse certainly requires many specific competencies (competencies that we usually take for granted in native speakers), it is insufficient to succeed in school. In schools what we really demand is academic proficiency (Heath, 1983, 1986). Because of this it is very important to recognize how the two aspects of second-language development, social and academic, differ. It is also very important to seriously consider the types of language and learning experiences required for full proficiency, and to recognize how the second-language use we expect of linguistically diverse students in our schools differs from the exposure most of us have had to second-language learning.

For most people, an understanding of the requirements of a second language comes from a foreign language perspective. For many it means high school and/or college-level courses in Spanish, French, or German, with the stakes not much higher than getting a good grade. In order to clarify the difference between these experiences and those of second-language learners in this country, that is, to clarify this question of what it means to function successfully in an academic setting in a second language, and what it takes to achieve native-like fluency, consider the following.

Suppose that you will soon be expected to teach a literacy course in Spanish. In order to prepare, you are attending a Spanish talk on literacy.

> ¿Qué es la lectura? Cuando muchos de nosotros aprendimos a leer, se consideraba muy importante poder decirfrar las palabras en la página, usualmente usando un método fonético. La orientación era hacía a prender las partes de la palabras, de las oraciones y de las ideas, y por la práctica de estos elementos llegaríamos al entendimiento de la totalidad. Ahora hemos adoptado otra manera de pensar en cuanto a la lectura. En vez de enfocarnos en las partes, nos hemos comenzado a enfocar primero en las ideas enteras. De este enfoque, esperamos que el deseo de communicarnos por los símbolos escritos ayudará en el desarrollo de las destrezas de la lectura. Es importante considerar las implicaciones de este cambio de perspectiva para nuestra metodología de instrucción.

Hearing [or reading] some of this information in a language that may be unfamiliar to you undoubtedly restricts, if not totally inhibits, your ability to think about the information and to incorporate it into your existing knowledge base. It may also have seemed stressful and irritating, and might have made you tune out. And yet, you are going to be required to utilize this information to develop a broader understanding for your students of some basic literacy principles.

Let's take this example one step further. You have been working on your language abilities for 9 months. You are now asked to give a lecture on an extension of this topic in Spanish, developing your ideas and rationale. This will take more than the ability to listen [read] and understand a lecture. It will require you to develop the ability to fully articulate ideas about literacy instruction in Spanish. As you do this, you will pass through several stages.

First you will most likely learn to handle the topic at a conversational, nontechnical level, then at a level that allows you to state your positions and explain and defend them simply and clearly. The most difficult level of proficiency will be that of learning to articulate and develop the subtleties and complexity of your ideas aloud for your students, and to answer questions and engage in a spontaneous interchange about the topic. Of course, in addition to being able to present this information orally, you will also be expected to read and write your thoughts on the subject clearly, coherently, and correctly. And, finally to be truly considered fluent, you must strive for native-like syntax and prosody.

The situation above presents some stiff challenges. However, to bolster you, you have a fully developed educational and language repertoire and a good to excellent grasp of the topic to provide the foundation for acquiring this level of proficiency in your second language and that you can transfer to this new task. You have had the opportunity to develop your thinking and articulation skills within the context of a language, culture, and set of experiences familiar to you.

As you just experienced, dealing with a fully familiar topic in a second language is very difficult. Even more difficult is dealing with that topic at a fully academic level, even as an individual with a strong schooling background. It is important to reflect on how much more difficult it is for students who: (a) may have little familiarity with the topics they are asked to learn, (b) are also in the process of developing basic underlying academic competencies, and (c) are trying to gain access to the content at the same time that they are being asked to gain mastery of it. This is the task we have set for limited English-proficient students as they enter many schools, often with little or no support for its accomplishment. Linguistically diverse students do arrive at school with the essential fund of language that English speakers come with, but it is *not encoded* in English.

As the former example suggests, given the level of proficiency students need in schools, schools have at least two major roles to play in relationship to the education of linguistically diverse students: first, to educate these children, that is, to facilitate their learning of processes for acquiring, analyzing, and utilizing information; and second, to develop their English proficiency. As demonstrated in Alfredo's example, many programs developed for linguistically diverse students often ignore the principles of thinking, learning, and development that should guide the education of all students including those where these principles need to be refined and adapted to the development of two languages within the school setting.

There are, of course, two major approaches to meeting the needs of linguistically diverse students—those that use the primary language as an integral part of instruction either fully or partially, and those that use only English. In order to accommodate the needs of students and the resources of schools, there are many different ways in which programs can be configured to provide appropriate and sound support and educational development. Although I am a firm believer in and advocate of bilingual education, I know that full primary-language instruction is not always possible for all language groups in all situations. Where there is a critical mass of students, however, opportunities for supporting students by providing primary-language development can usually be accomplished by rethinking and reconfiguring programs and resources (Berman et al., 1991). If primary-language development is not possible, schools can still always find ways to utilize home language resources to connect and give meaning to students' academic learning within real life experiences. It should not be necessary for children to have to choose between their families and communities, and school. In the long run, everyone loses (Garcia, 1982; Zentalla, 1988).

Whether programs utilize the primary language or only English, basic principles of learning, development, and language acquisition should be used to guide decision making about language use, time in program, strategies for instruction, and so on. But, because these principles are unfamiliar to most educators, and because in schools they are often replaced by pragmatic considerations, where decisions are made to accommodate adults rather than students (McGill-Frazen & Allington, 1993; Sizer, 1985; Trueba, 1989), the result is educational practice that contradicts what we know and believe about good teaching and learning. The faulty practices they engender have tragic academic and life consequences. Among these faulty practices are: students being exited from ESL services after 2 years, regardless of proficiency; ESL students expected to function fully as native English speakers across the curriculum after 2 years; students always separated from English speakers for instruction; or, at the other extreme never being grouped homogeneously by language proficiency and always asked to perform in a setting in which they have to compete with native English speakers for the floor; critical masses of students of a particular language group consistently split up and distributed throughout a school to provide a multicultural experience for other children—although their own educational needs may not be met. They include: students taught primarily by paraprofessionals with little or no involvement or direction from certificated staff; students taught in their first language by teachers with very limited proficiency in that language; programs that use translation as a substitute for a true development of thinking in the first language or where the first language is indiscriminately used primarily for directives; reading and writing interventions that ignore the need for the development of oral language and background knowledge; students asked to do their writing in their first language but prepared for it in English, or vice versa; students expected to become native English speakers on a minimum of 15–30 minutes of ESL pull-out a day with no second-language reinforcement in the regular classroom; students' potential for learning being tested, assessed, and judged, and their being labeled, through assessments in areas in which they have had little or no academic experience—in essence, having to bear the blame for their own lack of instruction; students considered to have minimal or no language or cognitive abilities because they are not able to demonstrate them in English. As we interpret and draw conclusions about students' potential, reasons for school failure, and better methods and strategies for instruction from the research, evaluation and assessment data we collect, we need to be acutely aware of the impact of the particular schooling opportunities that have, or have not, existed for students over time.

We have all seen approaches that we advocate and know can enhance instruction for students implemented in ways that are unrecognizable in theory, philosophy, and purpose. It should therefore be no surprise to any of us that programs called bilingual and ESL also represent a great range in quality and effectiveness. We do not abandon or condemn methodologies or strategies on the basis of poor implementation, but rather we work to foster their more accurate and effective use. We should not be fooled, then, by the labels applied to programs, but rather we should be able to discern, evaluate, and assess the degree and quality of the elements of first- and second-language acquisition included in such programs, and in how they are implemented. Knowledge and understanding of the specifics of student cognitive development and the social context and language in which it occurs is critical to all researchers and educators involved in finding better methods and approaches to: developing literacy; affecting educational policy; making recommendations regarding what constitute reading disabilities; defining levels of potential; and perhaps most importantly preparing the teachers who will teach linguistically diverse children.

How do we identify good programs? What basic principles should we be able to see reflected in their implementation? Listed below are 10 basic principles that research and experience indicate are essential to developing sound programs. In many ways they parallel what we would expect for all children, but they always include the added dimension of first- and second-language acquisition. These principles provide part of the basic framework more fully discussed in Miramontes, Nadeau, and Commins (manuscript in preparation). These basic principles include:

1. *Educational experiences should engage linguistically diverse students actively in meaningful activities, appropriate to students' levels of experience.* This principle acknowledges that learning is not merely acquiring and practicing bits of language or bits of knowledge, but that learning develops through a process of experience, interac-

tion and mediation. It also recognizes that a developmental continuum exists for both first- and second-language development, continua that must be taken into account when organizing instruction (Au, 1984; Ruiz, 1990; Cummins, 1989).

2. *Second-language development cannot be accomplished by simply placing students in a language context designed for native speakers.* As presented earlier, both curriculum and strategies for second-language instruction differ from those for primary-language instruction. And, English as a second language instruction is an essential part of a total curriculum for linguistically diverse students.

3. *Second-language instruction must be organized to provide students the time, experiences, and opportunities they need to fully develop language proficiency across a range of social and academic contexts.* Planning for second-language learning must take into account how long it takes for full proficiency in a second language to develop across contexts. It also must insure that transfer and transition criteria are not determined arbitrarily (Nadeau & Miramontes, 1989; Krashen, 1981). Oral language, meaning-based strategies, experience with a broader range of vocabulary and linguistic structure, and extensive mediation need to be incorporated into a second-language reading program (Barnitz, 1985). A strong oral-language development component is essential at the beginning levels of second-language development and continues to be important throughout the various levels of acquiring second-language proficiency (Diaz et al., 1986; Ruiz, 1990), as was demonstrated earlier in the Spanish lecture example.

4. *Developing respect and proficiency for a student's home language nurtures cognition, academic achievement, family cohesiveness and student self-concept.* This fourth principle recognizes that the relationship of language, thought, and social context speak to the essential role of the primary language for the development of thinking and learning for all students, regardless of their language backgrounds (Cummins, 1989; Hakuta & Diaz, 1984; snow, 1989; Vygotsky, 1978).

5. *There is a distinction between using the primary language as a crutch for learning English, and developing the primary language as a foundation for thinking and learning.* The level, intensity, and quality of primary-language use plays a major role in the efficacy of bilingual instruction. It requires planning for the purposeful use of the primary language for thinking and learning. This planning is important whether full bilingual programs are implemented or whether programs are focused on a complete transition to English only (Legarreta-Marcaida, 1986).

6. *In order to develop bilingual academic proficiency, clear, separate, and meaning-enriched contexts for each language must be created during instructional time.* Principle 6 speaks to the broader societal context in which linguistically diverse students will be asked to function competently, and deals directly with the use of languages within instruction. Because of the sociopolitical context in which English and the student's first language exist (Carter, 1979; Crawford, 1989), each language must have its own discrete time and domains within the curriculum. This implies the separation of languages in instruction. As discussed, bilingual students will be required to use their languages effectively in three primary domains: (a) with monolingual primary-language speakers, (b) with monolingual English speakers, and (c) with other bilinguals. English is not the only language they require to be successful in the bilingual communities in which they live. Using languages in separate contexts provides

students the opportunity and encouragement to create and expand the domains in each language necessary for academic success in both (Commins & Miramontes, 1989; Wong-Fillmore, 1982).

7. *Assessment and evaluation of students must take into consideration first- and second-language developmental levels. Evaluation of student progress must necessarily include multiple strategies, contexts, instruments, and approaches in order to determine underlying knowledge and competencies.* This does not mean watered-down criteria, but rather appropriate criteria. Such criteria might be suggested by the earlier example of Chinese instruction for English speakers. In terms of assessment, although the performance of all students may vary in different contexts and on different tasks, research indicates that this is certainly true for linguistically diverse students (Diaz et al., 1986; Commins & Miramontes, 1989; Miramontes, 1990; Ruiz, 1990). Too often assessment is focused on the minimum a student can accomplish. A more productive and useful view of assessment would use students' identified competencies as the starting point for new learning, thus shifting from a deficit to an advocacy orientation.

8. *Parents and communities must play a major role in the learning and schooling of their children, and their inclusion is critical.* A principle role that families and community members can play is to provide support for primary-language development and the elaboration of underlying concepts needed for academic achievement (Delgado-Gaitan, 1986, 1992; Commins, 1989).

9. *Schoolwide organization and decision-making processes are important in developing strong, coherent, well-articulated, and successful programs for linguistically diverse students.* Therefore, the education of these students cannot be the sole responsibility of what are considered special programs, such as bilingual or ESL. In addition, both monolingual and bilingual teachers have very important roles to play in the education of these students and, it is unconscionable that we find so many paraprofessionals in this country ultimately responsible for the instructional program of linguistically diverse students. Information and training for teachers is sorely needed if they are to become effective instructors of linguistically diverse students (Berman et al., 1991).

10. *Schools need to deliberately plan and provide many opportunities for all students to interact, learn about, and respect one another.* Mere proximity is not enough. For all students, a knowledge of one's own culture and the cultures of others in the broader society are integral to the development of self-concept and self-knowledge.

Although briefly sketched, these basic premises should provide some food for thought with regard to criteria for examining programs you have observed or studied. As researchers in the field of literacy, a knowledge of the basic processes involved in moving from oral speech to symbolic representations are fundamental to what we do. Knowledge of how this is accomplished across two languages is not extraordinary to what we should know about language and learning, but rather is an essential part of our fundamental understanding of this process for all students. Research in first- and second-language acquisition provides many insights into the learning of other students who may also differ from so-called mainstream norms. In short, research on bilingualism, on first- and second-language acquisition, and on the education of bilingual students is not on the fringes, but rather right in the center of learning in schools.

In our research, we should become more aware of what constitutes a linguistically diverse student. As Alfredo's example points out, by the time he was being assessed for Chapter I and special education services, he was no longer speaking his primary language at school. It is also likely that he was not speaking it at home, either. Nevertheless, many of his interactions with family and community still engaged him actively in receiving information in his first language. How would Alfredo be labeled? How would his teachers refer to him: bilingual, a-lingual, mixed dominant, dominant English speaker, English-only speaker? And how are any, or all, of these labels relevant to his school learning?

In summary, what I hope has been established in this paper is that understanding first- and second-language acquisition in schools calls for sophisticated research and instructional strategies, and for teachers who are actively teaching. Interactions between first and second language and school learning are complex, and simply ignoring the issues (as seems to be the case for 84% of linguistically diverse students), or attaching labels to kids, sprinkling in a little instruction in either language and hoping for the best, has not worked.

Linguistically diverse communities are rich and complex in their language environments. This complexity is reflected in how children speak when they come to school and the skills and proficiencies they exhibit there. Making good program-planning decisions will depend on our being able to ask the right questions about a students' home language and school background, and on our understanding of the interrelationship of a variety of factors such as age, previous schooling experiences, language exposure, oral proficiency, and literacy development—in two languages.

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WHAT IS SCAFFOLDED INSTRUCTION? DEFINITIONS, DISTINGUISHING FEATURES, AND MISNOMERS

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My purpose in writing this paper is to argue against using scaffolding as an atheoretical metaphor when it offers a rich and compelling way for conceptualizing classroom instruction and learning. I maintain that we should not separate the implications of scaffolded instruction for practice and research from their theoretical foundations. Instead, we should strive to understand how theory, research, and practice contribute collectively to our understanding of the basic principles of effective teaching and learning.

From my review of the literature, I found the scaffolding metaphor was used as a prescription for good instruction, but its basic theoretical premises (e.g., the social-interactive context, the student's assistance in instruction) were often ignored. When we apply scaffolding to the classroom, we must consider how its primary processes of negotiating meaning and transferring responsibility are realized in different contexts. These contexts often constrain *how* (and *if*) students construct meaning, and whether they are willing and can assume responsibility for learning. When scaffolding is viewed as a pedagogical approach, studying it can illuminate the essential principles of social interactions in the classroom that support the construction of meaning and contribute to the development of self-regulated learning.

DEFINITIONS

Díaz, Neal, and Amaya-Williams (1990) wrote that "scaffolding refers to the gradual withdrawal of adult control and support as a function of the children's increasing mastery of a given task" (p. 139). This prototypic definition of scaffolding appears obvious, but theoretically, empirically, and pragmatically, how this "support" is built, maintained, and then gradually withdrawn is more complex than the simple metaphor implies. In this "definitional" section, I provide my interpretation of how scaffolding's theoretical foundation relates to its original conceptualization and use in current empirical work. I illustrate these theoretical premises in developmental research on parent-child scaffolding and then discuss how the definition of scaffolding is adapted for study and practice in the classroom.

Theoretical Foundations

Based on the social-constructivist perspective, I propose three theoretical tenets as a foundation for defining scaffolding. First, *knowledge is a constructive process for* *giving personal meaning to experience.* Although understanding often is constructed among individuals, negotiated meaning differs for each individual because our unique perspectives influence how we build knowledge. Second, *our interactions within a particular context influence our construction of knowledge.* Some contexts are supportive of learning, and some people are better at choosing supportive contexts. A third tenet of social-constructivism qualifies this social interdependence over time. *Neither knowledge nor context remains stable, but co-evolve as a natural part of human interaction and development.*

The first two tenets underlie recent conclusions from syntheses of educational research: (a) the teaching-learning process is a negotiation of meaning, and (b) context influences this negotiation. Dole, Duffy, Roehler, and Pearson (1991) summarized research on comprehension instruction by emphasizing the negotiated nature of teaching and learning as: "[R]esearch suggests that instruction can be characterized as a process in which teachers attempt to make learning sensible and students attempt to make sense of learning. Teachers and students negotiate instructional meaning" (p. 255). The influence of context on teaching-learning processes and outcomes appears to have been a difficult lesson to learn. Brophy and Good (1986) summarized nearly two decades of process-product research with: "[W]hat constitutes effective instruction (even if attention is restricted to achievement as the sole outcome of interest) varies with context" (p. 370).

The third tenet, involving change in the context of negotiation over time, is popular within current psychological literature as "self-regulated learning." Self-regulated learners are "metacognitively, motivationally, and behaviorally active participants in their own learning process" (Zimmerman, 1989, p. 4). Many current instructional methods, such as reciprocal teaching and cooperative learning, enhance self-regulated learning because teaching and learning are collaborative with the goal of students performing independently what was once only possible with assistance. Such methods convey content knowledge while requiring students to reflect on the processes of knowledge acquisition. These methods also share the goal of minimizing failure while increasing student participation.

Although these tenets do not fully capture all the subtleties and complexities of social constructivism, they are central to teacher-student interactions that are labeled as "scaffolded instruction." Together, the personal construction of knowledge, the interdependence between learning and context, and the changes in this interdependence form a theoretical foundation for examining scaffolded instruction.

Background conceptualizations of scaffolding. The construct of "scaffolding" evolved from a Vygotskian perspective. The social construction of meaning was central to Vygotsky's developmental theory of higher level thinking and current "Vygotskians" stress how social interactions are intrinsic parts of cognitive development. Within this perspective, a more knowledgeable other (a.k.a. the parent, the teacher) plays a necessary role in supporting learning. Also, according to Vygotsky (1978), learning occurs when the child accepts the challenge to develop new competencies, not repeat old ones. With this point in mind, Vygotsky (1978) defined an essential feature of learning as the "zone of proximal development," or: "[the] distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with capable peers" (p. 86).

Vygotsky posited direct pedagogical and assessment applications for the zone of proximal development (ZPD), and the construct is a familiar term for describing the interactions and the gradual transferring of responsibility between adult and child. For example, gradual withdrawal of adult support as a child assumes responsibility for achieving a goal has been proposed as evidence of the ZPD in language (Bruner, 1986), sociocultural skills (Bruner, 1990; Rogoff, 1990), cognitive skills (Wertsch, 1985; Wertsch & Hickmann, 1987), and emotional development (e.g., attachment theory; see Bickhard, 1992).

Wood, Bruner, and Ross (1976) proposed the metaphor of scaffolding to describe the adult's necessary, but temporary, support of the child through the ZPD, although the term "zone of proximal development" was never used in their original description. However, two central aspects of this guided participation reflect the theoretical tenets of scaffolding. First, movement through the ZPD assumes a reciprocal relationship between scaffolder and scaffoldee: meaning is negotiated. The teacher's simplifications of learning tasks and provisions of necessary support would be unsuccessful without the complementary participation of students contributing to instructional decisions.

Second, the gradual transfer of responsibility from the adult to the child is described throughout scaffolding interactions. Adults scaffold children's skill acquisition to acculturate them to the goals of the family and their society as life-long members (Rogoff, 1990), just as teachers scaffold instruction to help students attain the basic skills for life-long learning (Dole, Duffy, Roehler, & Pearson, 1991; Moore, 1988: Palincsar, 1986; Wang & Perverly, 1986). In both contexts the underlying goal is to transfer responsibility for learning because future successes depend on the child using skills independently.

Empirical Foundations

Initially the scaffolding metaphor was used to describe a tutor's guidance of her young tutees (Wood, Bruner, & Ross, 1976) and then a mother's contributions to her child's development of language (Bruner, 1978). Thus, scaffolding was used extensively in the developmental literature and then applied to classroom instruction. Because this tradition continues today, in this section, I use two developmental studies of parent-child scaffolding to illustrate its theoretical underpinnings. Then I highlight important similarities and differences when applying traditional scaffolding studies to classroom instruction. Finally, I introduce definitions of "instructional scaffolding."

Parent-Child Scaffolding

Historically, developmental psychologists have studied the central role parents play in scaffolding their children's social, emotional, and cognitive growth (see Dix, 1991; Duncan & Farley, 1990; Freud, 1990, Holden & West, 1989, for current empirical examples). As Bruner (1990) explained, this co-construction of meaning is essential for development:

> [T]he child does not enter the life of his or her group as a private and autistic sport of primary processes, but rather as a participant in a larger public process in which public meanings are not to his own advantage unless he can get them shared by others. (p.13)

Developmental studies remind us that entry into school is not the first time a child is part of the cooperative effort so central to instruction and learning (Bruner, 1990; Rogoff, 1990; Rogoff & Gardner, 1984).

Negotiation of meaning between parents and children. Rogoff and Gardner (1984) emphasized the negotiatory nature of scaffolding in cautioning that the parent's role should not be separated from that of the child's, but we should observe "how either or both of them contribute to the communication of information and skills" (p. 113). Rogoff and Gardner described the use of context to aid transfer and the involvement of the child as essential components of negotiation in scaffolding. For example, when they asked parents to teach their children a grocery categorization system, they found that the mothers often used familiar contexts to help their children learn the food categories. This use of prior knowledge to aid learning was illustrated by one mother's scaffolding for her 9-year-old son: "Okay, let's pretend we're going on a picnic (point to shelf 1), and we'll think: what do we need on a picnic" (p. 99)? Parental scaffolding also actively involved the children by guiding them to place items on shelves instead of first explaining the categories or showing the proper placement. Therefore, an important part of parent-child negotiation is the co-participation in scaffolding.

Transfer of responsibility from parent to child. A third essential component of scaffolding is the transfer of responsibility (Rogoff & Gardner, 1984). Scaffolding involves children in developing self-regulatory skills through active participation with adults who gradually withdraw unneeded supports. Like Rogoff and Gardner, Wertsch and Hickmann (1987) reported transitions from other-regulated to self-regulated strategies in preschoolers working an experimental puzzle with their mothers' assistance. They noted two prerequisites for this transfer of responsibility: (a) adults must allow children to regulate, and (b) the child must understand what the adult's temporary supports imply. Where these conditions held true, the strategic activity for completing the puzzle changes from being mother-controlled to child-controlled. Wertsch and Hickmann interpreted these findings as support of "Vygotsky's claim that the origins of strategic development are to be found in adult-child interaction" (p. 264).

Motivational aspects of parent-child scaffolding. Another compelling implication of scaffolding is its positive influence on the learner's motivation. Findings from parent-child dyads highlight the importance of scaffolding affective and social competencies in addition to cognitive competencies. Scaffolding requires an adult's presence that reflects a non-evaluative stance, or "I'm here if you need me." The child is encouraged to participate independently, and the adult provides a safety net. An example of the scaffolding of motivation is illustrated in the following mother-child exchange from the Wertsch and Hickmann (1987) study. In this excerpt the mother and child were working a puzzle of a truck by comparing their progress to a completed model puzzle:

> M: Goodness. You're almost done with your truck, aren't you? [falling intonation]
> C: [looks at the model] Now purple. Purple. (p. 263)

Do these contributions reflect the scaffolding of attentional strategies, or motivation, or both? Wertsch and Hickmann hypothesized that the mother's utterance (a) signaled the near completion of the task, (b) encouraged the child to finish, and (c) maintained social contact. This multidimensional interpretation of the simple utterance, "You're almost done with your truck, aren't you?" (and its accompanying intonation followed by the child's task-oriented response) exemplifies how scaffolding might provide multiple supports simultaneously. Similar instances of scaffolding motivation can be found in Rogoff and Gardner's (1984) transcripts of mother-child dyads in the grocery sorting task. For example, one transcript begins with the mother stating: "This should be fun" (p. 99).

Applying Parent-Child Scaffolding to the Classroom

The ideal classroom environment has been posited to be where students and teachers hold complementary views of teaching and learning like those found in successful parent-child dyads (Rogoff, 1990; Rogoff & Lave, 1984; Wertsch, 1985). Classroom researchers have addressed issues similar to Rogoff and Gardner's (1984) parent-child interactions regarding how: (a) new information should be related to children's prior knowledge, (b) children should participate actively in learning, and (c) responsibility for learning should be transferred to the child. Dialogue, choice, and participation are also prominent in the theoretical and empirical work on children's theories of school and their importance for cognitive development (e.g., Donaldson, 1978; Paris & Newman, 1990; Paris & Winograd, 1990; Wells, 1987). Parent-child and teacher-student instructional sequences share in the complexities of balancing challenge with frustration. Instructional goals, like transferring responsibility for learning, are not simply cognitive advances, but negotiations that involve the motivational, social, and emotional competencies of the learner as well.

On the other hand, major differences exist between parent-child and teacher-student interactions. The typical classroom of one teacher and over 20 students constrains the processes that evolve naturally in parent-child interactions. First, and foremost, dialogue is stifled by atypical formats such as cycles of known-answer questions followed by short student responses and ending with teacher evaluations. Such formats make participation more risky for students and offer them fewer choices about how to participate (Mehan, 1985). These constraints on classroom discourse stem, in part, from a teacher-student ratio that works against constructing the very kinds of knowledge parents use to interact successfully with their children.

Second, the classroom structure does not allow for several critical aspects of parent-child interactions even when teachers work individually with children. For example, the teacher-student interaction is public and constrained by time demands. Students must learn to participate with a variety of adults, whom they often do not know well, and learn to take risks in unfamiliar and socially regulated situations. Teachers must learn to negotiate meaning with students simultaneously, yet somehow transfer responsibility to each student appropriately.

Instructional Scaffolding

Like parental scaffolding, instructional scaffolding is the temporary teacher support to the student in the ZPD (Langer, 1984; Moore, 1988; Palincsar, 1986; Palincsar & Brown, 1984; Rogoff, 1990; Wood, Bruner, & Ross, 1976). The teacher's guidance is necessary for the student to reach a learning goal initially, but through guided participation, the student obtains the competencies for subsequently reaching the goal independently.

Palincsar (1986) described the instructional purposes of the ZPD as creating a context for the question: "How can educators best aid learners in the ZPD, nudging them from one level of competence to the next and eventually to independent application of the instructed skill" (p. 74)? Palincsar also emphasized that the teacher's choice of the learning task was critical to scaffolded instruction (cf. Wood, Bruner, & Ross's, 1976, "theory of the task"). In planning to scaffold, teachers need to reduce choices for the learner (e.g., simplify the task), *and* guide choices (e.g., accentuate critical task features).

In their paper that originated the scaffolding metaphor, Wood, Bruner, and Ross (1976) suggested six functions of scaffolded instruction (their terms are in italics):

1. *Recruitment*—Initiating student interest in the task
2. *Reduction in degrees of freedom*—Constraining the task
3. *Direction maintenance*—Supporting goal-directiveness and risk-taking
4. *Marking critical features*—Highlighting discrepancies between progress and goal
5. *Frustration control*—Mediating frustration and independence
6. *Demonstration*—Modeling solutions

Interestingly, these characteristics include cognitive, social, motivational, and emotional aspects of learning, such as those highlighted in parent-child scaffolding.

On the other hand, these six functions do not delineate the reciprocity between teacher and student or the relinquishment of control. Having to adapt the original definition has added confusion. Current uses of the term "scaffolding" appear to have perpetuated problems in defining scaffolding by broadening the definition to include nonsocial contexts (e.g., a student working independently on a computer or worksheet) or by restricting it to a single function, such as simplifying the task. In addition, scaffolded instruction has grown to be a prescription for the instructor with a small role for the learner (Rogoff, 1990). Focusing the flow of assistance on the pathway from teacher to student ignores well-known findings that the scaffoldee provides assistance throughout development (Tharp & Gallimore, 1988), and Vygotsky's (1978) implicit assumption that the child is co-participant in the ZPD.

DISTINGUISHING FEATURES OF SCAFFOLDED INSTRUCTION

Theoretically, I defined scaffolding as encompassing two processes: negotiation of meaning and the transfer of responsibility for learning. Then I illustrated these processes within developmental research on parent-child dyads and current implications of instructional scaffolding for educational practice (Langer, 1984; Paris & Winograd, 1990; Pearson & Raphael, 1990). However, empirical applications of scaffolding in the classroom have become so multifaceted and situation-specific that it is too often viewed as the method of "scaffolded instruction," which only emphasizes how to support the learner cognitively. I believe that a better way to apply scaffolding to classroom instruction is to view it as a pedagogical approach, a fundamental way of interacting instructionally, not as a single methodological approach.

To illustrate what I mean by scaffolding as a pedagogical approach, in this section I describe six overlapping characteristics of instructional scaffolding synthesized from literature in the last decade. In addition to the transfer of responsibility, the other five characteristics of scaffolding—teacher support, dialogue, non-evaluative collaboration, instruction at the appropriate level, and student choice and participation—represent negotiation collectively. I discuss each characteristic briefly in terms of its emphasis in the literature (see Table 1). Sometimes the examples seem more appropriate under another label, but the organization of examples reflects the terminology the original authors used when describing scaffolding and highlights the interrelationships among the characteristics.

Teacher support. The most common characteristic mentioned as instructional scaffolding is teacher support of student efforts. How the teacher provides rich examples for helping students relate new information to their prior knowledge reflects this popular meaning. For example, Dole, Duffy, Roehler, and Pearson (1991) listed a variety of ways teachers scaffold student comprehension: cueing, prompting, analogies, metaphors, questioning, elaborations, and remodeling. The original use of the term "scaffolding" also emphasized this cognitive role. The Wood, Bruner, and Ross (1976) functions of reducing the degrees of freedom, marking critical features, and demonstrating fall under this category of teacher support strategies.

On the other hand, the term "teacher support" is so general that it easily could (and often does) overshadow all the other characteristics of scaffolding discussed elsewhere in the literature. By taking the scaffolding metaphor too literally (i.e., "scaffold"="support"), many educators are ignoring (a) the different forms of support, (b) the reciprocal and negotiatory nature of interactions, (c) the need to transfer control to the student whenever possible, and (d) the social context of scaffolding interactions.

Transfer of responsibility. A second characteristic of scaffolding, and one that is central to the theoretical definition of scaffolding, is transferring responsibility to the learner. Most discussions of scaffolding depict the external support as temporary with the goal of allowing the learner to become more independent, or self-regulated. Researchers studying adult-child scaffolding have found a consistent progression from other-regulation to self-regulation in parent-child dyads (Rogoff & Gardner, 1984; Wertsch & Hickmann, 1987), and in teacher-student routines (Winegar, 1989). The transition from teacher-led instruction to student-led instruction also has been shown during comprehension instruction in small reading groups (Palincsar, 1986), and the benefits of student control of instruction have been examined from the teacher's and the students' perspectives (Palincsar, David, Winn, Stevens, & Brown, 1990).

Dialogue. Vygotsky (1978) stressed the necessity of dialogue for cognitive development. Dialogues between teachers and students not only serve to negotiate understanding, but the shift to more student talk is cited frequently as a hallmark of the transfer of responsibility inherent in scaffolding (Moore, 1988; Palincsar, 1986; Palincsar & Brown, 1984; Paris & Byrnes, 1989; Paris & Winograd, 1990). In contrast, research on classroom discourse has shown the highly structured turn-taking in school makes the teacher's role preeminent and rarely negotiated (Cazden, 1986; Mehan, 1985; Piaget, 1973).

The characteristic of dialogue in scaffolded instruction suggests a break from traditional classroom discourse in several ways. First, it provides for classroom talk

Table 1

Sources for the Six Characteristics of Instructional Scaffolding

Characteristic of Scaffolding	Literature Source
Teacher Supports Student Efforts	Dole, Duffy, Roehler, & Pearson, 1991 Langer, 1984 Moore, 1988 Palincsar, 1986 Palincsar & Brown, 1984 Rogoff & Gardner, 1984 Slavin, 1988 (peer support)[a] Wood, Bruner, & Ross, 1976 Woolfolk, 1987[a]
Transfer of Responsibility	Dole, Duffy, Roehler, & Pearson, 1991 Langer's, 1984, "Internalization" Moore, 1988 Palincsar, 1986 Palincsar & Brown, 1984 Pearson & Raphael, 1990 Rogoff & Gardner, 1984
Importance of Dialogue	Dole, Duffy, Roehler, & Pearson, 1991 Langer, 1984 Moore, 1988 Palincsar, 1986 Palincsar & Brown, 1984 Paris & Winograd, 1990 Rogoff & Gardner, 1984
Instruction at Appropriate Level	Good & Brophy's 1986, "Plus-one matching"[a] Langer, 1984 Slavin, 1988 (peer support only)[a] Woolfolk, 1987[a]
Collaboration/Non-evaluative	Langer, 1984 Palincsar, 1986 Pearson & Raphael, 1990
Student Participation/Choice	Langer, 1984 Rogoff & Gardner, 1984

[a] References to scaffolding, or instruction in the ZPD, from books used in teacher education classes.

where the teacher does not necessarily respond every other turn. Second, it allows for the students to initiate discourse and to respond to each other. Finally, instructional scaffolding supports student contributions by integrating them into the dialogue and provides a context for student participation.

Non-evaluative collaboration. A fourth characteristic of scaffolding, non-evaluative collaboration, qualifies the context of teacher support and dialogue. Palincsar (1986) discussed the importance of collaborative evaluations, or a type of formative feedback, as important for scaffolding. For example, the goal of reciprocal teaching is for the students to learn to collaborate with the teacher and with each other through questioning, summarizing, clarifying, and predicting story outcomes in small reading groups (Palincsar & Brown, 1984). Similarly, Langer (1984) described collaboration as "shared responsibility" where the teacher's goal is to guide the student to new learning, not to evaluate previous learning. This characteristic parallels one of Vygotsky's (1978) original applications for the ZPD: to evaluate the child's potential to develop new competencies; and not to evaluate already established competencies.

Appropriateness of the instructional level. Scaffolded instruction should be directed within the student's ZPD. Vygotsky (1978) defined the ZPD as involving functions that have yet to mature, "but are currently in an embryonic state" (p. 86). Similarly, Donaldson (1978) described the appropriate level of instruction as guidance toward tasks that can be accomplished *with effort.* This feature of scaffolding requires that the teacher knows the students' current competencies and monitors carefully the development of new competencies. I found it interesting that this feature of scaffolding was the most common among the three teacher education texts I surveyed. However, the emphasis on appropriate instructional level is often interpreted as what the student can accomplish individually, not what the student can accomplish with assistance as defined in scaffolding.

Co-participation. Finally, a sixth distinguishing feature of scaffolded instruction is the opportunity for students to participate actively and cooperate in directing instruction. Rogoff and Gardner (1984) described the participation of the child under the guidance of the adult as "proleptic instruction." The learner's actions are a form of support for future independent applications of the skill because the learner has "gone through the motions." Prior successes also may build self-efficacy and increase student willingness to enter other ZPDs (i.e., accept new challenges). An underlying principle of constructivism is that students want to engage in information-seeking (Paris & Byrnes, 1989), and an important goal of scaffolded instruction is to ensure this participation. Wood, Bruner, and Ross's (1976) remaining three functions of scaffolding highlight the need for student engagement—recruitment, direction maintenance, and frustration control.

Moreover, student participation in scaffolded instruction enables cognitive development through motivation to be autonomous. Donaldson (1978) described optimal student participation as deriving from "a fundamental human urge to be effective, competent and independent, to understand the world and act with skill" (p. 113). Recently, Ryan, and Powelson (1991) concluded that instructional practices, like scaffolding, that are supportive of autonomous learning would be the most successful in promoting more student curiosity, risk taking, greater perceived competence, and general self-worth. They also found that students in classrooms that promoted self-regulated learning and autonomy had significant advantages in academic performance.

Although we think of participation as positive, Ryan and Powelson (1991) noted that the perception of being controlled has a reciprocal effect of more adult control. People who perceive control as outside themselves are more likely to create that type of environment, and vice versa. Thus, the reciprocity between the teacher and the student is not necessarily always positive. Co-participation could be dysfunctional.

In summary, instructional scaffolding is a principled approach to instruction and learning. The basic processes involve the negotiation of meaning and the transfer of responsibility for learning within a social context. The teacher's and student's goal is for the student to achieve independently what was once only possible with assistance. This goal is accomplished through the support of social, cognitive, metacognitive, and affective skills at a level just within the student's potential development. The teacher's support is temporary and provided only as necessary. The teacher and the student mutually depend on each other for negotiating meaning and transferring responsibility.

Scaffolded instruction is social-constructive because it is collaborative, yet nonevaluative, and optimal for student participation and choice. The work of scaffolding is carried out through dialogue, reflecting a social plane of learning. Therefore the metaphor of scaffolding is not that the teacher provides the scaffold while the student builds knowledge, but the teacher and student jointly place the scaffold and construct an outer structure of shared meaning. The scaffolding is removed gradually, and the student completes the constructive process by assuming ownership and using the newly acquired knowledge.

AVOIDING MISNOMERS

Although scaffolded instruction has become a common implication for educational practice (Langer, 1984; Paris & Winograd, 1990; Pearson & Raphael, 1990), we need to arrive at a mutual understanding of its characteristics before recommending it. Recent critiques of scaffolding have addressed its generalizability for cognitive development, for metacognitive development, and for different instructional formats such as whole-group instruction, computer-assisted instruction, and study sheets (Breed & Roller, 1991). Such critical analyses bring us closer to creating a shared meaning of what scaffolding is, and what it is not.

Based on my literature review, I propose that scaffolding cannot be removed from the social-interactional sphere because doing so destroys the fundamental goal of engaging the learner in the interrelationships of learning with others. Instructional methods that do not provide for social interaction are not scaffolded instruction. Computer programs and student worksheets in themselves may provide various forms of cognitive support, and even some motivational feedback (e.g., "Way to Go!"), but without social interaction a basic premise of scaffolding is lost. The social context of the interaction is central to labeling a learning episode as scaffolding.

In addition, instructional scaffolding should retain its theoretical base when applied to different contexts, including different instructional methods. As Vygotsky supposed (Wertsch, 1985), scaffolding in school is very different from that of the home. In translating the ZPD within ideal adult-child interactions to the imperfect context of one teacher and over 20 students, we frequently lose the reciprocity inherent in scaffolding. Also, in both contexts (home and school), we have based our prescriptions on ideal scaffolding interactions without understanding how effective scaffolding develops, or highlighting how inappropriate scaffolding can be detrimental to development (Bickhard, 1992).

The importance of differentiating scaffolding from instructional method was illustrated in Palincsar's (1986) descriptive analysis of reciprocal teaching. Palincsar observed that some teachers appeared to scaffold naturally (the "advanced scaffolding groups"), suggesting that some scaffolders and scaffoldees may be predisposed to successful interactions. For example, all the teachers were teaching the same skills using the same material on the same day, but teachers varied considerably on the quality and quantity of scaffolding they provided. Compare the following two teachers' openings for the story entitled, "The Aquanauts":

T1: Have you heard of Aquaman, or aquarium? What do you think of when you hear aquarium? (p. 86)
T2: Okay, they are aquanauts. When you get big and study Latin, if you study Latin, you'll know that aqua means water . . . (p. 86)

The teachers who began the reciprocal teaching sessions with more advanced scaffolding skills (i.e., T1) effected the most change in their students' use of the metacognitive strategies and gains in comprehension scores. This finding emphasizes how little we know about how the skill of scaffolding emerges naturally in classroom instruction, or about how the expertise of the scaffolder may be in part a reflection of students who provided superb assistance. This study also highlights that the method (i.e., reciprocal teaching) is not scaffolding, but the way each teacher adapted the method reflected different features of scaffolded instruction and produced different outcomes.

In conclusion, the distinguishing features of scaffolding are necessary, but singularly not sufficient for scaffolded instruction. First, we must maintain the theoretical underpinnings of social constructivism. Scaffolded instruction must reflect the understanding that learners construct knowledge; teachers cannot simply give knowledge to students. Scaffolded instruction also must reflect the understanding that the context will influence how and what is learned. Unless the context is appropriate for negotiating meaning (including various forms of support, dialogue, non-evaluative collaboration, appropriate level of instruction, student choice and participation) and the shared goal is to transfer control for learning, then scaffolding is not being realized.

Using the metaphor of scaffolding in the classroom presents us with several challenges. First, we need to reexamine how we use the term in our professional writing because the problem of vagueness has haunted it as well as many of our favorite constructs (Alexander, Schallert & Hare, 1991). Second, we need to define scaffolding, so its theoretical foundation is reflected in its empirical usage, and so it is translated easily to practice. Third, we need to understand scaffolding developmentally. Too often, scaffolded instruction has been buried as an example of an instructional method, such as reciprocal teaching, when there is much diversity in how such a method reflects scaffolding. Therefore, we need to look beyond methods and begin to understand how teachers develop and use their scaffolding skills.

Finally, we need to examine the students' role in scaffolded instruction. Scaffolding involves many potential interactions depending on the skills and goals of the participants. Not every student responds to teacher scaffolds. Not every interaction moves instruction and learning forward. We need to begin to study systematically the scaffolding interactions that do and do *not* result in rich teaching-learning episodes, moving both instruction and learning to higher levels. We also need to differentiate scaffolded instruction from classroom interactions that are also successful, but not appropriately labeled as scaffolding.

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THE CASE FOR EXPRESSIVE WRITING FOR DEVELOPMENTAL COLLEGE READERS

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Although recent research has demonstrated the value of expressive writing in improving reading comprehension (Collins, 1979; Feathers & White, 1987), what is still unclear is the benefit of expressive writing on higher order comprehension processes and overall abstract thinking of nonproficient college readers and writers. Students enrolled in college basic skills reading classes need appropriate instruction in using strategies that enhance their reading comprehension, develop their metacognitive abilities, and overcome passivity, thus enabling them to view themselves as capable learners.

There is a growing body of research evidence which points to the beneficial effects of reading and writing on thinking critically (Tierney & Shanahan, 1991); however, the type of writing in which students engage may be significant for improving their understanding of text. Expressive writing, in contrast to transactional (i.e., informational) or poetic writing (Britton, Burgess, Martin, McLeod, & Rosen, 1975), is writing that is personal, close to the self, and lacking the constraints of more formal discourse (since it submits itself to the free flow of ideas). The personal and informal nature of expressive writing mandates the learner's participation, creating a forum for personal engagement with the text (Fulwiler, 1987). It is this opportunity for personal engagement that is critical for overcoming the passivity of nonproficient learners. The multiple nature of the cognitive and affective benefits of informal expressive writing has made expressive writing journal assignments an attractive pedagogical strategy in classrooms.

According to Britton et al. (1975), expressive writing is the matrix for all other modes of writing, first in the developmental sequence in moving to transactional writing, the type of writing most often required in academic settings. Expressive writing allows the reader/writer to reflect on the text, and to respond both as a participant and spectator. The writer is allowed to speculate, pose questions, problem solve, imagine, and to play with language. To compare the levels of abstraction of language use in students' transactional writing, Britton et al. (1975) developed a scale that describes seven levels of abstract reasoning. This scale classified student transactional writing according to the complexity of students' use of abstract reasoning. In this study the

Britton et al. (1975) scale was used to describe the type of thinking developmental college readers exhibited in expressive writing activities.

The main hypothesis of this study was that expressive writing improves both the reading comprehension of developmental college readers and their abstraction in language use, as measured by the Britton et al. (1975) scale. Four questions were posed: (a) Does the practice of expressive writing as an integral component of a college basic skills reading course lead to greater gains in reading comprehension than instruction without expressive writing? (b) Is there a relationship between a student's attained level of abstraction in language use (measured by the Britton et al. (1975) scale in pre-, mid-, and post-instruction expressive writing events (EWE)) and growth in reading comprehension (measured by standardized reading tests)? (c) Is there a correlation between the students' abstract thinking in expressive writing events an scores (total and subtest) on standardized reading tests? (d) After writing in journals for the course of a semester, how do students perceive the value of expressive writing in their own reading and learning?

METHOD

Subjects

Students enrolled in four sections of a required basic skills reading course at a suburban community college in New Jersey comprised the sample. At the beginning of the study 90 students, assigned to the basic skills reading course through the normal college registration process that matches student requests for courses with available time slots, comprised the original sample. Forty-four students in two of these courses comprised the control group; 46 students in the other two classes comprised the experimental group. However, by the end of the study, due to the normal attrition rate at this college, 7 students in the control group had dropped the course and 5 students in the experimental group had dropped the course, leaving 37 students in the control group and 41 in the experimental group. Descriptive data about the students' age [Experimental: M=19.20 (SD=2.69); Control: M=18.95 (SD=1.47)], mean score on the *New Jersey Basic Skills College Placement Test* [Experimental: M=49.86 (SD=7.00); Control: M=50.04 (SD=9.98)], and mean score on the Reading Assessment Test 3 (RAT 3) [Experimental: M=35.74 (SD=5.95); Control: M=36.05 (SD=5.71)] indicated that on several measures students in both groups were initially comparable and represented the typical composition of community college basic skills classes.

Procedure

Students in all classes in the study were enrolled in the community college's basic skills reading courses, which required that students participate each week in whole-class meetings of 2 hours of lecture and in individualized activities during 2 hours of lab (the standard format for many developmental reading courses). Students in the control groups followed the traditional course curriculum and did not write expressive journal responses. Students in the experimental group, however, wrote weekly learning log entries in response to each of their assigned college textbook reading selections. These learning log entries were used in small-group and whole-class discussions during subsequent class meetings.

As part of their regular class activity at the beginning, middle, and end of the semester, students in both the experimental and control groups read short expository selections of 1,000–1,300 words and wrote responses to open-ended prompts about the texts. In this study, each of these student-writing sessions was labeled as an "Expressive Writing Event" (EWE). Using the Britton et al. (1975) scale, three trained raters holistically evaluated each of the EWE scripts collected during the three EWE sessions; Cronbach's Coefficient Alpha for interrater reliability for each of the writing events (EWE 1, α=.85; EWE 2, α=.74; EWE 3, α=.78) indicated acceptable interrater reliability levels.

In addition to these writing samples, the experimental group's 534 learning log entries, 41 book reviews, and 41 reflective papers about their learning log entries were collected and analyzed. As a follow-up, 22 interviews were conducted to determine the experimental students' attitudes about expressive writing. Six students, representing three different levels of reading achievement, were also selected for closer observation. Finally, students in both the control and experimental groups were tested on their reading comprehension, as measured by the Reading Assessment Test 4 (RAT 4), the required exit test that is administered to students upon completion of the basic skills classes in reading.

Classification Scale of Abstract Reasoning

The Britton et al. (1975) scale distinguishes students' abstract reasoning at seven different levels. For this study, the scale was adapted to classify the complexity of abstract reasoning in students' expressive writing. Britton et al.'s (1975) scale begins with a simple record (a present-tense running commentary), then moves to a report (a past-tense eye witness account), to a general narrative (a story), to four levels of analogic and tautologic thinking: low-level analogic (in which the connections among statements are not explicit), analogic (in which the statements are logically connected), analogic/tautologic (in which the writer speculates and forms generalizations), and the tautologic (in which the writer hypothesizes and makes deductions from observations). In the study reported here, the last two levels were combined, thus using the descriptions of record, report, narrative, low-level analogic, analogic, and analogic/tautologic to classify students' writing.

RESULTS

The quantitative analysis of the writing samples included a two sample *t* test, used to compare differences in word count fluency between the experimental and control groups' writing samples (EWEs) and differences in pretest and posttest reading comprehension. The Mann Whitney U Test was used to determine statistical differences between the two groups' abstraction in language use, ranked by the Britton et al. (1975) scale. The Spearman correlation coefficient was used to determine correlations between the level of abstraction in language use and the total score and subscores on the RAT posttest. In addition, qualitative analysis of the writing samples and interviews described the type of thinking and learning evident through expressive writing.

Quantitative Analysis

To test the statistical significance in standardized reading comprehension test scores between the RAT 3 pretest [Experimental: M=35.74 (SD=5.95), n=43; Control: M=36.05 (SD=5.71), n=41] and the RAT 4 posttest [Experimental: M=52.69 (SD=5.09), n=41; Control: M=49.49 (SD=6.04), n=37] a two-sample t test was used, adjusting for the differences in the number of subjects from the beginning of the study to the end. The t-test result of the difference in means of the experimental group's reading comprehension scores [M=16.634 (SD=5.43), n=41] in comparison to those of the control group [M=13.05 (SD=6.03), n=37) indicated a statistically significant difference [$t(76)$=2.76, p<.01]. This t-test result indicated that the practice of expressive writing as an integral component of a college basic skills reading class, the focus of the first question of the study, does lead to statistically significant gains in reading comprehension, as measured by standardized reading tests, in contrast to reading instruction without expressive writing. Additional analysis noted that the experimental group wrote consistently longer EWE scripts, indicating greater fluency than students in the control group (see Table 1).

Table 1

Means (and Standard Deviations) of the Expressive Writing (EWE) Word Count

	Experimental		Control		
	n	*M (SD)*	*N*	*M (SD)*	*t*
EWE 1	42	133.86 (48.81)	40	87.38 (32.07)	5.122***
EWE 2	42	111.14 (48.99)	39	81.64 (33.30)	3.221**
EWE 3	41	120.14 (48.26)	35	76.82 (31.42)	4.684***

**Significant at p<.001. ***Significant at p<.0001.

In response to the second question of the study, there were no statistically significant correlations between students' attained level of abstraction and growth in reading comprehension. Although the experimental group improved significantly in reading comprehension, there was no statistically significant correlation between the student scores in abstraction used in the three Expressive Writing Events and the growth of reading comprehension as measured by the local standardized reading achievement tests (EWE 1, r=.29; EWE 2, r=.14; EWE 3, r=.15). In addition, in response to the third question of the study, there were no statistically significant correlations between the levels of abstraction in language use with any of the subtest scores of the standardized reading test.

Although there were no statistically significant correlations between students' EWE abstraction in language use and comprehension growth, the distribution of per-

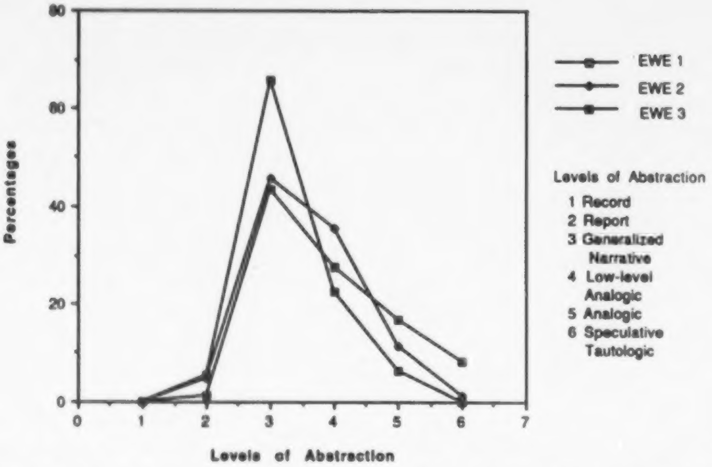

Figure 1. Levels of abstraction in language use in Expressive Writing (EWE) scripts.

centages for each level of the Britton et al. (1975) scale (see Figure 1) indicated that students wrote the greatest percentage of scripts at level 3 (generalized narrative) and level 4 (low-level analogic). In other words, the types of thinking that predominated involved reporting events and forming loosely organized generalizations.

Qualitative Analysis

The weekly learning logs, reflective papers, and responses to the open-ended questions during student interviews revealed several insights about the use of expressive writing in basic skills reading classes and students' perception about the value of expressive writing—the focus of the fourth question in this study. The student writing samples and interviews suggested that the experimental group was reflecting, speculating, and hypothesizing about their writing, thus indicating abstraction in language use. The types of student logs and reflective papers, categorized according to the type of thinking and learning exhibited in their expressive writing, showed evidences of authenticity, investment, metacognition, and evaluation. These four categories correspond to the four types of self-knowledge that Yinger and Clark (1981) suggest that writers learn through journal writing: personal knowledge (what they feel); propositional knowledge (what they know); procedural knowledge (what they do and how they do it); and theoretical knowledge (why they do it) (see Table 2).

Since a unique characteristic of expressive writing is that it is close to one's personal self, the expressive writing samples warranted additional analysis of the type of thinking and learning that students exhibited. In this study four descriptors of expressive writing were used: authenticity, investment, metacognition, and evaluation. The characteristic of authenticity described the student's candor and blunt honesty, reflecting the writer's personal knowledge, evident through such phrases as "To tell the truth . . ." The student's cognitive and social investment in creating a dialogue with the text, evident through such emotional phrases as "shocked" or "stunned," reflected propositional knowledge. Another observation was that students made metacognitive comments in their expressive writing, indicative of procedural knowledge about reading and learning processes. Last, when students assumed the stance of critic, explicitly noting a judgment or supplying reasons for their criticism, their writ-

Table 2

Examples of Thinking and Learning in Expressive Writing

Characteristic of Thinking and Learning	Type of Knowledge	Examples in Students' Writing Samples
Authenticity	*Personal*	
Writer speaks candidly, even bluntly, as in conversation	How the writer feels	"In my honest opinion"
	Sense of self	"As a Hispanic American I'm very proud of my race and my language."
	Genuine "voice"	"I could have done without this course"
Investment	*Propositional*	
Making explicit what the writer knows about the world in order to make the connections for constructing new knowledge	Knowledge "about"	"My parents own a grocery store and it is my job at times to do the pricing. When we price we usually give odd numbers."
	Knowledge "that"	
	Personal connections with what the writer knows	"I was amazed at all the different pricing methods. I always thought they put it on the counter and that was it."
Metacognition	*Procedural*	
Writer reflecting on his/her own thinking processes	"Knowing how"	"I saw a few changes in my writing; I answered the questions from my point of view."
	What the writer does and how the writer does it	"I have to write right after I read before my head fills up with other ideas."
Evaluation	*Theoretical*	
Generalizing	"Why" knowledge	"All because someone is different doesn't make them a problem."
Judging	Reasons underlying behavior	"In order to survive, in my opinion, one must communicate with their neighbors and work their hardest in order to live."
Speculating		
Hypothesizing	Framework with which the writer views the world	

Note. Adapted from Yinger and Clark (1981).

ing was categorized as evaluation, reflecting theoretical knowledge. These four categories—authenticity, investment, metacognition, and evaluation—provided a framework that described the salient characteristics of expressive writing.

The interviews and case studies revealed how expressive writing mandated many kinds of reading, facilitated retention, improved study skills, and promoted thinking at a deeper level. Students who did not use learning logs viewed reading as information transfer. Students who wrote in learning logs, however, indicated that their model of reading had changed. It was no longer "just reading words" but looking "behind" the words to construct personal meaning (see Table 3). Furthermore, learning logs facilitated comprehension, engagement, and retention. One student summarized, "Sometimes you read it and it vanishes. You say 'OK, fine. That was nice.' When you write about it you think more and have to express yourself and you assimilate it better that way."

DISCUSSION

Although both the experimental and control groups improved their reading comprehension, the infusion of expressive writing and discussion into course instruction improved reading comprehension of students enrolled in basic skills classes more than instruction without such intervention. This study revealed that for developmental college students expressive writing leads to significant gains in expository text comprehension—the type of text most prevalent in college classrooms. The high percentage of student EWE scripts at level 3 (generalized narrative) sheds light on how expressive writing supports comprehension. The reader/writer used explanations of personal experiences to construct meaning of the text, which is the essential process of reading comprehension. Their expressive writings served as a link between personal experiences to the new information in the text. Using their own language, students could forge connections between the textual information, which was often distant and abstract, to their own experiences, which were concrete and significant. As one student described it, the process of expressive writing in response to text is "reading with your own experience."

A major implication of this study is that expressive writing is a strategy that helps developmental college readers in their comprehension processes. For example, the expressive writing responses in the weekly learning logs functioned as first-draft thinking about expository text reading assignments. For many students in developmental classes, this first step is essential during the process of language skills development and in understanding that reading is a process involving the personal construction of meaning. Although this study was limited to an investigation with developmental college readers in a basic skills class, this study reinforces other research (Chamberlin, 1986) that supports expressive writing as a valuable pedagogical tool when used as an initial format for learning and reading content-area texts.

When developmental reading students responded to short answer text-based questions, they tended to duplicate information in the text, focusing on a literal interpretation of the text, and answering questions "like a recipe," according to one student. However, when students responded to open-ended prompts using expressive discourse,

Table 3

Frequencies of Student Comments about Their Perceptions of the Effect of Expressive Writing upon Thinking and Learning

Frequency		Category
Interviews *n*=22	Final Reflective Papers *n*=37	
		Cognition
20	2	Encouraged thinking about subject
10	5	Facilitated retention
5	9	Aided acquisition of new knowledge
5	1	Required "deeper" thinking
0	2	Required approaching subject from different points of view
		Reading
14	17	Improved reading comprehension
17	1	Mandated rereading own writing
15	3	Mandated rereading article
10	4	Encouraged personal involvement in reading
4	2	Made reading more interesting
0	2	Required approaching reading from different points of view
3	1	Read to look for things to write about
1	1	Read faster
0	1	Did not have to read article 3–4 times
2	1	Read more carefully
1	2	Improved vocabulary
0	2	Improved study habits
0	5	Previewing helped
0	5	Predicting helped
		Writing
17	1	Mandated rereading own writing
6	10	Improved writing
10	0	Did not know shape of writing prior to writing
4	7	Enjoyed writing logs
1	1	Took a lot of time
1	0	Useful for discussion
0	1	Improved spelling and punctuation
1	0	Useful for review
		Personal Knowledge
2	1	Useful for teacher to get to know you
7	9	Could express yourself, say what you think
1	2	Felt more confident to be able to explain article read
0	1	Gave sense of freedom
1	1	Learned about yourself

they showed evidence of speculation, hypothesizing, and risk-taking—stances that underlie proficiency in reading and learning. Open-ended prompts, in contrast to text-based questions, allowed students to craft their own positions, to assume stances that they wanted. As one student reflected, open-ended prompts allowed students to "just go off the wall." Prompts such as "I wonder why . . . ," "If I were . . . ," "I realized . . . ," and other similar, open-ended phrases, invited divergent thinking and prompted higher levels of abstract reasoning. The nature of the prompt, which essentially left the choice of topic up to the students, was critical for encouraging them to speculate, hypothesize, and make connections between ideas in the text and their own experiences.

A key observation was that expressive writing shifted the locus of control from the teachers to the student. When writing expressively in response to open-ended prompts, students read with a personal purpose in mind, reflecting on their reading in light of personal goals of a self-selected topic. The result was, as stated by one student, "a deeper kind of thinking" since the "words had meaning behind them." This personal nature of engagement with the text was a powerful factor in overcoming student apathy.

Expressive writing proved to be an important first step in classrooms that valued discussion of the text as part of the process of construction of meaning. Because students used their expressive responses in class discussions with their peers, their class participation increased. Class discussions became more lively and student-centered, since students had to explain, defend, and elaborate their own individual positions. Finally, the results of this study point to the importance of integrating reading, reflecting, writing, and discussing as critical for the comprehension of academic discourse.

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TEXTUAL PRACTICES AND THE EDUCATION OF NOVICE ETHNOGRAPHERS AND JOURNALISTS

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Since the late 1970s and early 1980s, the social sciences have engaged in debates about the nature of knowledge derived from research and how such knowledge should be textually represented. Much of the debate has centered around two conflicting positions: between those who maintain that research findings reflect an objective view of the phenomena studied and those who argue that all knowledge production is socially constructed and therefore inherently subjective. The social constructionist viewpoint has been fueled by contemporary literary theory and emerging rhetorical analyses of research monographs and reports (see Nelson, Megill, & McCloskey, 1987, for examples of discussions about the rhetoric of inquiry in the various social sciences). The rhetorical analyses of research reports has led to calls for new ways of writing up research (see e.g., Alvermann, 1991), with an emphasis on the creation of self-reflective texts. Specifically, researchers interested in alternative ways of representing research have called into question forms of writing they call "objectivist accounts" (see e.g., Brodkey, 1987b). Objectivist accounts represent research as the search for "truths" obtainable if researchers maintain a proper professional stance and intellectual distance from the phenomena observed. As Atkinson (1990) argues, writers of objectivist texts assume that their texts simply and transparently represent some external reality; that these texts, in fact, provide a clear window through which readers can view the objects under study. In these accounts, the image of the microscope or camera lens is often evoked as a metaphor for the researcher's role.

As a result, researchers who adopt a social constructionist stance have begun to advocate new forms of textual practices. By textual practices, I mean the processes involved in the construction and uses of text. I am defining texts narrowly here to refer to the final written products resulting from research. The call for alternative ways of writing have begun to appear in emerging theoretical statements about research accounts (see e.g., Clifford & Marcus, 1986; White, 1978). Others have tried to produce alternative forms of research writing with varying degrees of success (see Van Maanen's, 1988, typology of ethnographic reports for a discussion of these alternative forms). We might ask, to what extent do the concerns about textual representation articulated in the theoretical commentary and which infuse much of the debate about writing in the social sciences affect what novices learn about representing their research?

This article presents findings from a study of the advice given to novices about textual practices in two fields, cultural anthropology and journalism. My aim is to

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identify what advice about textual practices is given and how well this advice does or does not convey the theoretical concerns about textual representation currently debated. I would not claim that either journalism or cultural anthropology represents the whole of the social sciences, nor that journalism could itself be necessarily categorized as a discipline within the social sciences. However, what journalists and cultural anthropologists do is similar in some ways to what writers in all social scientific fields try to do—namely, to understand and report on the complexities of human behavior and life. One of the expressed goals of both journalism and cultural anthropology is to provide us with "news" about the worlds around us and to explain how such news affects our understanding of these worlds and our relationships to them. Both journalists and cultural anthropologists are charged with the responsibility of "translating" happenings within these other worlds (be they close in proximity or far from us) into language intelligible and accessible to nonnatives.

The selection of journalism and cultural anthropology for comparison is particularly appropriate for two major reasons. First, both fields have undergone the kind of revolution in thinking about writing that is characteristic of the debates about textual representation found in other social sciences. In journalism, this challenge emerged in the development of "New Journalism." Central to New Journalism is the belief that objectivity should not be the ideal to which all writing aspires. Instead, good news stories are those that are emotionally compelling and finely wrought. News stories should eliminate the divide between the reader and the world reported on (Schudson, 1978). Thus, writers began to experiment in mixing genres, in creating a hybrid report that often resulted in fictional recountings of actual events (see e.g., Capote's *In Cold Blood*, or Tom Wolfe's essays for *The New Yorker*). The New Journalism did not survive intact but has informed today's generation of news writers. We see evidence of its continuing influence and the controversy New Journalistic techniques still engender. For example, the debate about whether the fictional techniques espoused by New Journalists are properly the province of news underlay the Janet Cooke scandal. Readers may recall that Janet Cooke received a Pulitzer Prize for her 1980 feature story entitled "Jimmy's World," a story about an 8-year-old heroin user, which, upon examination, turned out to be fictional instead of factual in nature.

In cultural anthropology, ethnographers have begun to write accounts that provide more details about the researchers' roles in "constructing" their studies and their data through their interactions with a variety of participants and institutions. In part, this self-critical examination of research practices is an extension of the critiques made about the role ethnographers may have played in supporting the expansion of colonialism in the Third World or in promoting the political aims of particular groups. But the current debates go beyond the original critique about the ethnographer's role. In making arguments for the writing of nontraditional ethnographies, proponents of this view challenge the basic assumption that "objective" descriptions of cultural phenomena are even possible. For example, Rosaldo's (1987) ethnographic description of American breakfast rituals as parody shows readers the sometimes grotesque distortions of human behavior that may be inherent in some descriptions of cultural phenomena.

In addition, both journalists and anthropologists see close links between their two fields. Anthropologists have sometimes looked to the New Journalism for models for writing cultural descriptions. Similarly, journalists sometimes evoke the anthropological goal of capturing the routine of daily living in writing news stories that may reveal larger social patterns not easily seen in the daily accounts of breakdowns of the social order (Bird & Dardenne, 1988).

Given the ferment in both fields around the issue of writing, we might expect novices to be trained in these new writing practices. It is a popular conception that innovation finds its most fertile ground for development in those members of a profession least tied to traditional practices. That is, we might expect the newest members of a discipline to be the first in adopting unconventional approaches to writing texts because they have the least invested in maintaining the status quo. We might also expect that novices would be instructed in these alternative modes for representing research. The questions for this study then are, (a) what is the instruction novice ethnographers and journalists receive in writing ethnographies or news stories and (b) to what extent does this instruction conserve or encourage changes in the dominant practices in representing research? In other words, what is communicated to novices about the dominant textual practices in journalistic and ethnographic writing?

METHODOLOGY

Forms of Data

The findings reported here are based on my analyses of two different forms of data. The first consists of field notes, audiotaped recordings of class sessions, and interview data I collected during a year-long ethnographic study of six master's degree students attending "Bayview University" (a pseudonym) where the professional journalism program is located. The purpose of this larger ethnographic study was to examine how students learn to become professional journalists by learning the conventions and demands of writing news stories. Because I did not have comparable data on the education of cultural anthropologists, I relied on an analysis of the field guides for doing ethnographic research often recommended to novice ethnographers. Like other practically oriented textbooks, field guides encapsulate and communicate what many consider to be the "wisdom of practice" in doing ethnography. Although they are at best a poor substitute for the kind of intensive training in field work some anthropology students receive, for many novice ethnographers they are a primary source for training. Moreover, for researchers interested in doing ethnography and who may have had little coursework or limited access to anthropological training seminars, they may be the only source of information on how to do fieldwork and write ethnographic reports. Of the 12 field guides for doing ethnographic research published between 1970 and 1991 that I examined, I chose to do an in-depth analysis of only those 4 guides that include at least one section dealing specifically with the writing of ethnographic reports (Ellen, 1984; Fetterman, 1989; Spradley, 1980; Wolcott, 1990).

In analyzing the data from the journalism ethnography, I focused on those events and activities where students were explicitly taught ways of writing through comments and advice given to them by the faculty or experienced journalists. In doing this analysis, I looked specifically at what was said by faculty and students, paying attention to changes over time in how they articulated solutions to problems. I subjected the verbal data to topical and thematic analyses, much like that typically used in the analysis of conversations (see e.g., Tannen, 1981) and looked for patterns in the justifications offered by students and journalists for the work they did or the responses they gave. A more thorough description of the analytic methods used for the entire ethnographic study can be found in Chin (1991).

In terms of the analysis of the field guides, I did "close readings" of each guide, paying particular attention to the rhetorical claims made by each author and the metaphors used in discussing how texts present the data from a study (Lakoff & Johnson, 1980). For example, Wolcott (1990) evokes a stage metaphor when he describes how some researchers draw aside a "curtain" to let readers watch events unfold. General patterns or themes were noted if they appeared in all four guides.

RESULTS

In both journalism and cultural anthropology, little of the theory about textual practices has filtered down in ways that affect the socialization of novice reporters or ethnographers. Part of the reason for this is that the language used to describe writing in both fields inadequately represents the complexities of actual writing practices. As a result, the kind of advice or training offered is that most effective in maintaining and conserving "objectivist" practices. Specifically, not having a grasp of the complexities involved in writing leads experienced researchers/journalists to advocate a set of practices that act as conservative forces against textual innovation. These practices can be characterized in the following ways: (a) writers must learn to situate their texts within a professionally recognized web of intertexts that constrain and define to a great extent what can be researched and how it can be represented; and (b) writers need to mask their identity in written accounts in orders to establish the credibility and validity of their research findings or observed events. Moreover, any other discussion about writing is generally reduced to comments about formal features of the written text (e.g., style or genre considerations) or about more seemingly manageable topics such as data reduction, schematic presentations, and/or the use of computers for data analysis. All of these topics for discussion are important ones to consider in the course of doing research; however, they do not directly address the issue of what it means to write ethnographies or news stories nor how people should go about writing such texts.

Situating Writing Intertextually

In any field writers justify the value of their texts by appealing to precedents established by previously published texts. In journalism this appeal takes a form called "pegging"; that is, reporters argue for the publication of their stories by rhetorically pegging their article to ones covering similar topics or events. For example, an Associated Press news story about the Queen of England's offer to pay income taxes was pegged to two other news stories that appeared a few days before the income tax story ran: a story about the fire at Windsor Castle and articles discussing the use of taxpayers' money in restoring the castle. Pegs usually appear within the first two or three paragraphs of a news story. They are seamlessly and almost effortlessly woven into the text, creating a sort of dense backdrop against which the present story is then played out.

Students at Bayview learned about the necessity of pegging their stories in a variety of ways, even though the journalism faculty never explicitly explained what a news peg is nor how pegging is accomplished in a news text itself. To expose students to the necessity of pegging their news stories, the faculty required students to read several daily papers, at least one covering the local news and one recognized as an important national or regional news source, such as the *Chicago Tribune, New York Times,* the *Los Angeles Times,* or the *Washington Post.* In class, students were often asked to frame their justification for their stories in terms of how they related to specific events or topics that had appeared in these newspapers or in other news outlets. For example, students were assigned to do follow-up news stories about a natural disaster that happened in a community near Bayview. Although the disaster had occurred a month earlier, there was still extensive news coverage in the local media on the after effects. During the class session when students were asked to justify their story ideas, each of the students referred to local news stories from television and print sources that were related to their topics. If a student proposed a story that was too similar to one already done, the professor rejected the idea. If, however, the student could show how their story idea elaborated on or showed a different angle to the story already covered, then their idea was approved. In addition, students were discouraged from pursuing stories that could not clearly be linked to some topic or event that had recently been covered by the local or national media. The messages communicated by the faculty about pegging were reinforced by the students' contact with other news organizations they worked for throughout the year as interns or as freelance writers.

There is another way in which appeals to precedence functioned to constrain what students learned to report as news—that is, only those newspapers considered by the profession to be "papers of record" or "elite" publications were routinely used in pegging and shaping what could be reported. Faculty did not openly discourage students from reading "alternative" or "underground" news publications; however, these publications were not mentioned as possible legitimate sources of information nor as publications on which reporters should hang their news pegs. In fact, examples used in class tended to be drawn almost exclusively from only a few news outlets, namely the *Wall Street Journal,* the *New York Times,* the *Washington Post, Time,* and the two local papers of record for cities near Bayview.

Learning to situate one's work within a discipline is an important part of the socialization of novice cultural anthropologists as well. As with journalism, an appeal to precedent is a central way of justifying the value of any new research project. Novice researchers are often advised to study the journals and books in their field to see what gets written and how it is represented. In fact, most academic researchers routinely do this kind of reading as one of the first steps taken in searching out new forums for their own writing. In the ethnographic field guides I examined, this advice consistently is given in the sections on reporting research. Unlike journalism with its emphasis on precedent as defined by the "elite" papers, there is less agreement now about what constitutes the canonical texts to be cited in a research report. For example, we can contrast Spradley's (1980) confident identification of studies that exhibit "ethnographic writing of the highest caliber" against Ellen's (1984) more cautious statements about the need to include a variety of examples to reflect the many ways in which ethnographies are now being written. In addition, the Wolcott (1990), Fetterman (1989), and Ellen (1984) guides acknowledge that the emergence of critical examinations of ethnographic methods and texts has changed the nature of the ethnographies now being written. This discussion is missing from Spradley's (1980) guide, which was written in an earlier time and which reflected different epistemological concerns.

However, aside from general statements made by Fetterman (1989), Wolcott (1990) and the contributors in the Ellen (1984) volume, none of the guides try to link theoretical concerns about texts to actual practices required in writing ethnographic studies. How writers are supposed to situate their writing within the discipline given the changing nature of texts written is never explicitly addressed. Readers wanting specific help on this matter may have to infer from each author's references to various examples how to situate their own texts within the discipline. If they do, however, they will find that these references only tangentially deal with issues in writing and representing one's research. For example, J. Davis, the author of the chapter in Ellen's (1984) book devoted to ethnographic writing, lists a number of studies that are exemplars of particular solutions to textual problems. In this chapter, "Data into Text," Davis points readers to 20 monographs and article-length studies that exemplify how various authors handled particular problems with their data or their representation of their findings. Of these 20 examples, 10 refer to studies that demonstrate how computers can be used to check the consistency of one's data, to do reanalysis of data presented in earlier studies, or to run simulations on machine-read data that can then be compared to observed data. Of the other 10, 5 refer to studies that provide particularly good or poor examples of the design of diagrams, maps, and other forms of schematic representation. And the final 5 citations are reserved to demonstrate what makes a "direct" style of writing desirable, how description can be argumentative, and what makes a good case study. No doubt schematic drawings are an important form of representation of data; however, they are just one aspect of textual presentation that concerns novice ethnographers.

In both journalism and anthropology, situating a text is crucial to justifying its existence. In fact, as Bakhtin (1986) has argued and Witte (1992) has empirically demonstrated, the production of texts always involves an intertextual dimension. However, neither field has found ways to describe how texts are situated and how such choices reveal fundamental assumptions about what "counts" as legitimate knowledge in that discipline. That is, there seems to a disjunction between what journalists and anthropologists have theoretically discussed about textual representation and what they actually communicate to novices about text construction. This gap between theory and practice widens further when we consider a second set of practices advocated by veteran journalists and the guides for writing up research—that is, how the researcher or journalist portrays a "self" in research or news accounts.

Masking the Self in Written Accounts

The portrayal of a self-conscious, reflective persona is one of the hallmarks of nonobjectivist accounts. To present the researcher/journalist in the report itself as involved in the process of discovery and in the construction of the data gathered or phenomena observed is to admit to the subjectivity of all written accounts. Self-reflection also provides information valuable to readers in assessing the claims made. Let me use a common experience to demonstrate why the identity of the writer affects how we read such reports. Consider what goes into decisions about framing pictures. The decision depends on what we want the frame to highlight or set off. Although the choice may seem trivial, whatever frame is chosen will affect viewers' responses to the image. In a sense, the frame establishes a mood, a sensibility for viewing the photo or picture that becomes part of the gestalt of looking. For example, we would experience a Rembrandt differently if it were encased in a clear, plastic box frame instead of the ornate, wooden frames typically used by museums.

The same idea applies to texts, the frame here being the author who conventionally is "hidden" other than in the frontispiece, much like the journalist in the byline. Advice given to novice journalists and ethnographers maintains the view that the "self" should be masked in the report. In journalism, the strictures against any revelation of a journalist's identity are particularly strong. Students are told repeatedly that their job is simply to report the news in an objective, intelligible, and readable fashion. The maintenance of "objectivity" in news accounts is the *sine qua non* of professional news reporting. And the appearance of objectivity can only be maintained if any reference to the reporter as the reporting instrument is purged from the text. The only way that the reporter's identity can creep into a news story is within the byline. The byline, however, functions merely to establish for readers that the reporter actually witnessed the event reported. It does not function to identify the reporter as an individual who may or may not hold any particular viewpoint about the events witnessed.

Straying from this convention results in strong negative reactions from experienced reporters. For example, I had asked a veteran news reporter to critique some of the journalism students' stories. In one of the student's articles, he came across a single sentence in a 650-word story that mentioned that the journalism students had attended a press conference with the mayor. In commenting on this sentence, the reporter stated that he "objected" to the reference to the students, arguing that "the best practice is to keep the writer out of the story in a situation like this. It just gets in the way. Who cares who's telling the news." The reporter made this argument despite his earlier assertions that all news events must be contextualized, that readers should know something about the source of the information. However, contextual information is only legitimate if reporters themselves are kept out of the context in the news text. Reporters who do otherwise are branded as being "unprofessional," "having an ax to grind," and "biased."

We might expect journalists to put a high value on the appearance of objectivity since that is what the average newspaper reader expects from news stories. So it is not surprising that veteran journalists would advise novices to delete any references to the reporter's self from a news story. But it is surprising to see this same advice given to novice ethnographers in the field guides. For example, in one guide ethnographers are characterized as "dispassionate objective observers" different from the tax-collectors, tax-farmers, court clerks, local historians and colonial officers who collect and supply anthropologists with many of the documents they use in their analyses of cultural phenomena (Ellen, 1984, p. 301). In fact, all four guides implicitly advocate an image of the researcher/subject as eyes without a face speaking in a disembodied voice. For example, Wolcott (1990) cautions ethnographers against staking too much on their interpretation of their data, arguing instead that "the descriptive account is likely to constitute the most important contribution you have to make. Here you become the storyteller, inviting the reader *to see through your eyes what you have seen,* then offering your interpretation" (pp. 27–28, emphasis added). This image of the ethnographer acting as the "eyes" for the distant reader runs throughout Wolcott's description of the ethnographer's role in writing. On the surface, such advice seems commonsensical. Few would argue with its basic tenet. Implicit in this image of "seeing through the eyes of others" is the assumption that the "eyes" act merely as windows onto some reality that has been observed and not that the "eyes" themselves belong to a body that determines what can or cannot be seen. However, the text is not simply a transparent medium for conveying images but instead, a rhetorical construction designed to persuade the reader of the "truth" of this view.

The metaphor of ethnography as cultural "translation" exhibits a similarly unreflective view of what it means to translate any text, be it the translation of Flaubert's *Madame Bovary* into English or the translation of the "social text" observed by the ethnographer into the research report. In statements made about ethnography as cultural translation, the authors of the field guides spend more time discussing the stylistic aspects of "good translations" than they do the problematic nature of translation itself. Discussions about representation devolve into discussions about the merits of a "plain style," as if "plainness" of style eliminates the subjectivity that informs any account. Notice, for example, Wolcott's (1990) reference to Geertz's claims about writing. In this passage, Wolcott argues that style (and by inference, rhetorical constructions) are unimportant to cultural translation: "I have never met anyone who reads qualitative studies for their style. What Geertz (1988) says of anthropological writing applies to qualitative research in general: 'Good anthropological texts are plain texts, unpretending. They neither invite literary-critical close reading nor reward it' (p. 2)" (Wolcott, 1990, pp. 48–49). The "plainness" of texts, then, is a way of rhetorically persuading readers that the writer merely reflects what was experienced in the field.

Thus, although both journalists and ethnographers acknowledge in theory the subjective nature of doing research and representing their findings textually, the advice given about masking the researcher "self" in reports helps maintain the very objectivist stance that journalists and ethnographers find theoretically problematic. In fact, it seems that much of the advice given about writing seems to maintain a distinction between the concerns of theorists with modes of representation and the actual practices ethnographers and journalists must engage in in writing their accounts. In part, we can attribute this division between theory and practice to the mismatch between the language used in theoretical discussions about textual representation and that used in practical discussions about text production. Discussions about representation have focused on finished forms of writing whereas discussions about writing reports have tried to describe the inchoate, often "hidden" means by which writers accomplish their tasks. In addition, the division between theory and practice is further widened because assumptions about language and its function, the assumption of language's "transparency," continues to underlie all discussions about text production although theoretical discussions of textual representation argue that language is not "transparent."

CONCLUSION

This analysis of the advice novices receive about writing news stories or ethnographies is grounded in my belief that researchers in the social sciences can benefit from more self-reflective and critical awareness of their research practices. However, there may not be just one way of writing research reports that can serve these ends. Healthy debates continue to be waged in a number of forums about this issue. One of my aims in this article has been to raise questions that have not yet been addressed in these conversations, to explore why it may be difficult for novices to write the alternative texts advocated or adopted by more experienced members of a discipline. The other aim, which I can only sketch below, is to explore two implications that arise from this initial investigation.

Research on text production and text comprehension has been virtually ignored in much of the discussions about textual practices taking place in many of the social sciences. Although much of this research is germane to the problems in textual representation under consideration, little mention is made of findings from basic research on writing and writing processes. Knowledge of this research can help reshape these discussions in ways that bring theory and practice into closer alignment. Certainly, research on writing in the disciplines can inform and extend current notions of what it means to write for a discipline (see e.g., Brodkey, 1987a; Pearson Casanave, 1990).

In addition, as literacy researchers increasingly use ethnographic methods, they are likely to depend on the very kinds of resources for their own training that are critiqued in this article. This article has attempted to raise cautions about the wholesale and perhaps unreflective adoption of such methodological practices. That is not to argue against the use of ethnography in literacy research. It is, however, to raise questions about our need to engage in critical reflection on not only the methodological issues involved in collecting or analyzing qualitative data but also the ways in which qualitative findings are eventually written up.

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READING IN ENGLISH AS A TRANSLATION TASK: FLUENT DEAF YOUNG ADULT BILINGUALS

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Developmental psycholinguistic research as well as basic cognitive research confirms that receptive and expressive language abilities enable the move into reading (Goswami, 1986; Holligan & Johnson, 1988; Mason, 1984). If such is the case, what do readers do when they cannot depend upon listening and speaking to achieve competence in native language communication? This study addresses that question by focusing on individuals who are profoundly deaf and yet have been able to become literate in English. Comparisons are made between college students classified as bilinguals, students who are fluent in both American Sign Language (ASL) and signed English and others who had little ASL ability and had variable abilities in signed English. Rather than judging deaf readers to be deficient and in error when it comes to dealing with English texts, as is commonly the case, this study draws attention to deaf persons as bilinguals, knowledgeable in both signed English and American Sign Language, who may approach reading from a distinct language perspective.

Deaf Individuals and Language Learning Dilemmas

In the United States, the vast majority of deaf children are born to two hearing parents. Over 35% of these parents do not attempt to learn a sign language, such as ASL, or a manual English system to communicate with their youngsters (Jordan & Karchmer, 1986). Manual English systems, commonly referred to as signed English, require the learning of word signs that correspond to words in English, a fingerspelling alphabet to spell words for which signs are unknown, and sometimes inflection signs to attach to words, such as an inflection for past tense. These systems maintain the grammatical constructions of English (Riekehof, 1981). ASL, however, is a separate language and requires learning how to use manual signs plus face and body, "nonmanual" components, to express a grammar that is distinct from English. Deaf persons who are fluent in both signed English and in ASL are said to be bilingual.

Parents who do learn ASL are usually in the process of acquiring it while their deaf children are passing early language acquisition milestones. These deaf children rarely encounter native deaf Americans whose first language is ASL although such interactions would enhance and facilitate language learning (Johnson, Liddell, & Erting, 1989). For many, initial introductions to ASL come in their postsecondary school years. Berent (1988) remarks about the language learning of deaf children using terms familiar to bilingual research. In the quotation that follows, L1 refers to one's first, native language and L2 refers to a second acquired language:

> For those deaf children for whom ASL is in no sense an L1, the acquisition of [signed] English, nevertheless, begins to take on the characteristics of L2 acquisition. Once the deaf child reaches the point when he has a functional—though only partial—L1 (English), learning proceeds educationally and environmentally in much the same way that L2 learning proceeds. Therefore, the deaf individual's linguistic behavior can be understood both in terms of delayed L1 development and in terms of a continual, less naturalistic L2 development, where L2 is the standard, ideal model that has not been attained. Under these circumstances, we might be tempted to speak of this situation as 'L1.5 acquisition.' (p. 134)

One of the most obvious indications of the effects of L1.5 acquisition is in reading. Despite advances in educational research and instructional practice for hearing children learning to read, little change has been noted for deaf children. It is estimated that only 1.6% of the deaf population is reading at the appropriate age levels (Gaines, Mandler, & Bryant, 1981). and the majority of deaf adults read somewhere around a Grade 4 reading level (Allen. 1986).

Deaf Bilinguals

Instead of studying those who are native ASL users (i.e., about 3% who have two deaf parents and another 7% who have one deaf parent who is an ASL native), it seems more appropriate to study the individuals who comprise the majority, those who are L1.5 learners of language. Through an understanding of how it is that these individuals have overcome the L1.5 phenomenon and become bilingual in both signed English and ASL, further insights can be derived for developing better reading instruction for deaf children.

Source of the Study

In 1991 this author completed a dissertation on the reading behaviors of deaf young adults characterized as L1.5 learners (Chrosniak, 1991b). The purpose of the research was to explore language transfer (Odlin, 1989) and language interference in reading among prelingually deaf subjects who were at different stages of English proficiency and who were either becoming fluent in ASL or not. The core results of the study have been presented elsewhere (Chrosniak, 1991a). To summarize here, reading comprehension for connected discourse was significantly different for those subjects in the study who had the lowest English proficiency levels and the lowest reading levels. However, correlations between ASL ability and errors in reading comprehension of English texts were very low. There were no statistically significant effects to reading comprehension that could be attributed to language transfer (i.e., switching) into ASL while reading English texts. Transfer was determined during online reading and signing of the texts and the procedures are explained below. What did prove to be interesting were the reading behaviors of 5 of the 45 subjects who were the best readers, most proficient in English, and most fluent in ASL. It is these bilinguals who helped answer the question why any of the subjects might have chosen to switch between using signed English and ASL during reading. If language switching did not help nor hinder the interpretation and comprehension of the texts, then why do it?

METHODS

It is important, due to the complexities of the main study, to explain the basic methodology and then to focus upon the 5 bilinguals, comparing their behaviors to those of the other 40 subjects.

Subjects

Subjects were prelingually profoundly deaf college students attending the National Technical Institute for the Deaf in Rochester, New York. All had hearing parents and were schooled prior to college in either an oral (no sign language) to total communication environment in which signed English was used. None had had any consistent exposure to ASL. They were selected and classified according to their ASL proficiency, English proficiency, and reading ability using test data and questionnaires found in the college *All Skills Summary Sheets* (1987). The examiner also established a summary of subjective determinations about ASL proficiency from interviews with at least three of the instructors of each subject.

Special triples of subjects were arranged to account for the fact that this was not a longitudinal study: that is, two members of each triple had been in college between 3 and 6 years and were referred to as the "old" students; the third member was a freshman who resembled an old student pair with respect to their ASL proficiency at entrance to college, and their reading and English language abilities. Of the old student pairs, one person demonstrated growth in ASL abilities whereas the second showed little learning or even expressed and aversion to learning ASL. Thus, the 45 subjects yielded 15 triples, each triple having one old competent ASL user, one old nonuser to ASL, and one freshman.

Procedures

All subjects of the original study were required to read two chapters of The *Autobiography of Lincoln Steffens* (Steffens, 1936), chapters that were very clearly written involving the author's childhood. Each of the two chapters was read in separate sessions by each individual subject. All reading was videotaped and included 12 breaks in the reading where the subject was asked to retell the content of the episode they had just read and to answer six comprehension questions regarding that episode presented by the examiner in signed English. Subjects were asked at one session to sign the text in signed English, word for word. In a second session, the subjects were asked to sign, in effect to translate, the chapter in ASL. These procedures were counterbalanced to avoid order effects.

The chapters were presented using a personal computer. Strategically marked in the computer program were those areas in the text where third-person personal pronouns had to be interpreted anaphorically; approximately 2,000 such pronouns in each chapter. This particular linguistic structure is expressed in dramatically different forms in the grammars of English and ASL. It was through the vehicle of these personal pronouns that the videotapes could be analyzed for the presence of language transfer (switches) and for difficulties with comprehension of the text. The examiner transcribed the videotapes noting the language that was used at each area where a third-person personal pronoun occurred. The comprehension questions that followed each of 12 episodes were developed to target pronoun disambiguation and anaphoric reference understanding.

Comparisons between the 5 bilinguals and the other 40 subjects are explained in the current study regarding sign-language use and reading comprehension. Percentages have been calculated for the presence of ASL and English signing from those areas in the text where personal pronouns had to be understood. Percentages have also been calculated for reading comprehension errors. These percentages compare errors that occurred for questions where a subject was seen to be signing in the language not requested for the particular chapter over total comprehension errors.

RESULTS

During the extensive evaluation and analyses of the study, five subjects, all "old" students, were identified as fluent bilinguals in ASL and English. Most of the results reported here consist of material taken from observational analyses of the bilingual subjects' reading and signing behaviors.

Language Use during Reading

The 40 subjects of the study who were less proficient in English, though some were high ASL users, showed a predictable pattern of using signed English predominantly for both reading tasks. This was the predicted pattern since the text was written in English and none of these subjects had ever been asked before the study to translate written English into ASL. Yet even those subjects who claimed discomfort with or even and aversion to ASL were seen to use it on rare occasions while reading each chapter, even the freshmen. These instances, however, were not at personal pronoun areas.

As for the bilinguals, three of the five signed most precisely in English when asked to do so; however, four of the five frequently switched into signed English when asked to read in ASL. Their behaviors are shown in Table 1.

Table 1

Percentages of Use of Sign Language by Five Fluent Bilinguals for Two Reading Tasks

	Read in Signed English		Read in ASL	
Subject	% English Signs	% ASL	% English Signs	% ASL
1	100	0	22	78
2	100	0	47	53
3	88	12	36	64
4	40	60	47	53
5*	4	96	8	92

*Highest English Proficiency.

Looking at the bilinguals who were observed to use 100% English when asked, there was one very interesting characteristic about this signing that required the development of a special category for reevaluating all the subjects' transcripts. This characteristic was the presence of pointing gestures that might qualify for a kind of deictic, primitive transition device signaling a move into ASL. Whereas the first analyses appeared straightforward, counting the times at pronoun areas where the subjects used ASL or used English, these pointing gestures required a more careful analysis to see if a subject might be indicating a kind of shift into ASL. There were differences between the bilinguals' pointing and that of the other subjects.

In the subjects who were obviously incompetent users of ASL, there occurred a habitual use of pointing whenever they could not remember a sign for a word, or when they might have been too tired to fingerspell. Pointing gestures seemed to be used as emphasis by these subjects who were the lowest proficient ASL users; otherwise, the grammar of English remained intact.

Many of the subjects of the study used pointing gestures as would young children learning to speak. Young children typically use demonstratives and deixis as a precursor to using English pronouns anaphorically (Brener, 1983; Chipman, 1980; Wales, 1984). These pointing gestures were different, however, for the bilinguals who were either attempting to use ASL when asked or who switched to ASL while reading/signing in signed English. In other words, more fluent users of ASL referred anaphorically using the appropriate grammatical configurations of that language.

In some spoken languages there are inflections added onto certain words to signal one of several grammatical functions. One of these additions is a marker for personal pronouns. In ASL there is a kind of personal pronoun inflection that is considered a morpheme attached to certain verbs. This morpheme is realized as a nonmanual part of the language. Padden (1987) explains that in the case of *directional* verbs, the personal pronoun is located in the execution of the verb where the referent for that pronoun, or pronouns, has already been established in space, as in the sentence, "She gives it to him." This sentence is signed by moving the hand that signs *give* from the space designating *she* to a space designating *him*. Other verbs, such as those called *body anchor* verbs, may require a pointing gesture to designate the referent or recipient of an action, as for the verb, *love* which is made by crossed hands over one's heart (i.e., anchored on the body). The signer may point to the area where the loved one has been established in previous conversation.

When a signer tries to maintain fluency and show facility in body movement and body shifts, and even slight facial movements, one can see that pointing gestures are going beyond English. The bilinguals who were said to use English 100% of the time in this study, might have used a considerable amount of pointing that could not be judged as an excuse for not knowing a sign. One of these subjects used such gestures about 79% of the time. There appeared to be definite cohesion in the sign reading, and the employment of pointing gestures looked like a means to incorporate pronouns into ASL grammar.

Subject 5. What about the behaviors of Subject 5 who seemed to ignore the request to sign in signed English (see Table 1)? Informal discussions with this subject recorded prior to each reading indicated that she had attended oral-only schools before coming to college; but while in college for 4 years she had become "taken" by ASL, not only learning it but also studying about it on her own. She had a desire to continue studying about ASL with others. Ioup and Bustagui (1992) have presented data about an Egyptian woman who was quite similar to this subject. The intuition and initiative to study about a language that should be a native one but had been neglected due to living in another country enabled the Egyptian to learn to the point that experts in Arabic could not tell that she had not lived in Egypt since she was very young. Subject 5 appeared to be an ASL native as she conversed and as she read. Three sign language raters for the videotapes made that same judgment. With all good intentions to cooperate, it seems that her ASL enthusiasm overrode her efforts to sign in English when told to do so.

Reading Comprehension

In the main study, all of the comprehension questions were evaluated according to the individual subject's use of signed English or ASL at each area of the text from which a comprehension question had been derived. Computing scores for all the questions that were correct would not be very enlightening, but in order to say that ASL was not the cause of subjects making comprehension errors for English texts, it was necessary to observe the responses to questions that were derived only at parts of the texts where each individual subject was seen signing in the language other than that requested for a particular chapter, that is, the subject was using ASL when he or she should have been using English and vice versa. To put it another way, the subject might have been switching at a particular place in the text to help identify or keep track of a particular referent such as that of a personal pronoun.

The fluent bilinguals made fewer of their errors at the places where they switched, about 4% where they switched into ASL when they should have been signing in signed English and about 12% where they switched to signed English when they should have stayed in ASL. Subject 5 who consistently signed in ASL made no errors for that reading, and made 8% when she signed in English. The other 40 subjects made most of their errors when they switched to signed English from ASL, about 57%. Errors in the reverse condition were about 9%. It was the matter of reading ability and English proficiency that determined the most errors not ability in ASL. Those who were the least proficient in English, reading between grade 7.0 and grade 9.0, rarely used ASL and rarely switched to it while reading English. They made the most reading comprehension errors, about 50% more than those who were proficient.

DISCUSSION

Comparisons of fluent deaf bilingual readers to deaf readers who are not fluent bilinguals show that knowledge of ASL does not interfere with reading comprehension of English texts. As in bilingual research for spoken languages (Mägiste, 1986), facility in ASL as one's language for everyday communication may enable flexibility of choice of language to interpret texts written in English. Given the comments of Subject 5, a conscious effort to understand ASL as one understands English may enable a reader to pass from being an L1.5 learner and user to being bilingual.

One result that might have been obtained in the study was that maintaining the language of reading facilitates comprehension, whether that be sustaining ASL translation of English texts or reading/signing in English. This would imply that when a person correctly and methodically interprets an English text into ASL, that person is formulating the meaning of the text and has the benefit of understanding the text in two languages, each one supporting the other. Thus, it does not seem that a fluent reader/ASL signer would just read across the surface English syntax as a strategy for comprehension. Good readers who also have good command over ASL have the advantage of dual language competence to help them read an English text either in signed English or in ASL. In the case of the bilinguals in this study, their decision to switch languages while reading might have been just as a personal preference since there was little indication from the comprehension questions that it served to disambiguate referential forms. They only made 4% of their errors when they switched to ASL.

Some Implications

There is a substantial body of linguistic research that demonstrates similar behaviors in readers who are bilingual in spoken languages to the five deaf subjects in this study (Demel, 1987). The critical difference is that hearing persons usually start life developing only one native tongue.

Deaf persons have frequently been assessed about English competence by comparing their performance to that of hearing persons on specific standardized tests. These deaf individuals are judged to be deficient and far behind their hearing peers. Many of those test grammatical knowledge and infer reading comprehension from responses to a minimum set of questions attached to reading paragraphs. Often, deaf teens perform like much younger hearing children on many of these tests (King & Quigley, 1985). It is rare to see explorations of English language competence that study the possibilities of language differences and interpretation derived from knowing a language at least as "L1.5," no matter how primitive in its development.

There is a tendency within the field of deaf education to look to successful applied research of the hearing community hoping that the use of proven reading strategies will be helpful for teaching deaf children to read. What is lacking is basic cognitive research about deaf readers that is quite substantial for hearing readers and that forms the foundation for the development of instructional strategies in classrooms of children who hear. Studies that acknowledge and try to identify bilingual characteristics, such as the attempt of this paper, may enable the subsequent development of classroom strategies that are appropriate for children who cannot hear, particularly the majority who in current circumstances will never read as well as the college students of this study. Without basic research we will continue to teach deaf children to read with our fingers crossed.

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AN INTERGENERATIONAL APPROACH TO LITERACY: EFFECTS ON THE LITERACY LEARNING OF ADULTS AND ON THE PRACTICE OF FAMILY LITERACY

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As many researchers, most notably Heath (1983) and Taylor and Dorsey-Gaines (1988) have pointed out, in some families, the types and forms of literacy practiced at home are largely incongruent with the types of literacy that children will encounter on school entry. Therefore, despite the fact that literacy is far from absent in most home settings, the particular types of events that parents share with their children may have little influence on children's school success. Further, when parents lack ability, familiarity, or confidence in that which is considered standard or school-based literacy, they may have limited opportunity and access to becoming active participants in any aspect of their children's schooling. Lareau (1990), for example, revealed that upper-middle-class parents established far tighter linkages between home and school, contacting teachers to discuss grades, homework, and placement, whereas working-class parents were found to lack both the skills and the confidence to intervene in these ways, and more frequently left such decision-making to the teacher.

Rather than focusing on what parents do or on what parents learn in literacy programs that involve parents, most investigations have examined outcomes related to children with little or no attention to the ways that programs and practices influenced parental behaviors. In a comprehensive review of studies designed to assess the importance of parent involvement, generally, rather than intergenerational literacy, specifically, White, Taylor, and Moss (1992) report that the studies that are widely cited as the basis for the importance of parent intervention focus almost exclusively on programs in which the emphasis is on parents as intervenors in children's school learning, with virtually no attention to programs that may involve parents in other ways or to benefits that may accrue to parents or other family members. Further, virtually none of the studies reviewed attempted to monitor whether or not parents were, in fact, implementing the strategies and practices that were being taught. This later finding is of critical importance since these researchers conclude, based on their reanalysis of major studies, that there is little convincing evidence that parent intervention results in greater benefits for children. In investigations that have been specifically designed to assess the influence of family literacy, the focus has generally related to definition and programmatic description (e.g., Nuckolls, 1991; Ranard, 1989) or, again, to the academic performance of children with little attention to adults and their actions, behaviors or beliefs (e.g., Bean, Southworth, Koebler, & Fotta, 1990;

Seamon, Popp, & Darling, 1991). The few studies that have investigated parents' views and understanding about literacy have found that they strongly influence their literacy interactions with children (e.g., Eldridge-Hunter, 1992; Goldenberg, Reese, & Gallimore, 1992). More information is needed, however, to describe the kinds of instructional practices that ultimately lead to greater parental awareness and understanding of school-based literacy, routine and effective practice of shared literacy in the homes of adult new readers and writers, and ways adults who possess nonstandard or non-standard or non-school-based literacy might become active participants in their children's schooling.

The investigation that is described in this article was planned to examine the influence of an intergenerational approach to literacy learning on the reading and writing development of parents and on the incidence of the practice of family literacy at home. It was based on the premise that an intergenerational approach to literacy would not only extend adults' own uses of literacy, but would also enhance the ways they support their children's school learning. It differs from related work in that the outcome studied was not academic achievement of children, but rather the influence of the project on adults and their resulting interactions with their children. Two questions were posed: (a) What is the impact of an intergenerational approach on the literacy development and use of adult learners enrolled in an adult basic education program and, (b) what is the impact of an intergenerational approach on the incidence of shared literacy events between parent and child?

METHOD

Setting and Participants

The community in which this project was implemented is small, comprising approximately 2 square miles, and is considered a "gateway" for new immigrants. Families are ethnically diverse (47% Latino, 20% Southeast Asian, 10% other) and generally economically deprived, with the average income below $10,000. The high school reports a drop-out rate that exceeds 50% and the highest teen pregnancy rate in the state. During the first year of this study, the School Committee entered into a 10-year agreement with a private university to "manage" the school system. The project that served as the setting for this study was essentially the first major effort to emerge as a result of the school/university partnership.

Adult basic education classes in literacy were held in a community center located within walking distance of three of the four elementary schools, allowing parents to walk their children to school prior to coming to class. Free child care was provided for preschool-aged children. During the 3-year period, there were 367 families enrolled in literacy classes for at least one instructional cycle, including 246 mothers, 73 fathers, 27 grandparents, 10 aunts, 8 uncles, 1 sibling, and 2 adults who were caretakers but did not have a defined relationship with children. Within the families, there were 816 children, 270 preschool-aged and 546 school-aged. Ethnicity included 232 Latino/Latina, 102 Southeast Asian, 19 Caucasian, 13 African-American families and 1 Arab family. Of the 367 adults, 351 spoke English as a second language. Families represented 28 different countries of origin and 13 different first languages. For second-language learners, the range of English proficiency varied from limited to fair, and the range of literacy in the first language varied as well, from limited to high levels of proficiency. Five of the families reported reading aloud to their children in their first language prior to participation in the study.

There were two criteria for parents' enrollment in the classes: a desire to improve their own literacy and a commitment to engage in shared literacy events with their children on a daily basis.

Procedures

Parents attended literacy classes 4 days per week, 2 hours per day. During the first year, classes were organized within three instructional cycles of 9 weeks, 12 weeks, and 13 weeks. During the second year and third years, two instructional cycles of 15 weeks each were held each year. The research on bilingual education, second-language learning, and multicultural education (Genesee, 1985; Nieto, 1992; Sleeter & Grant, 1987; Weinstein, 1984) led us to hypothesize that classes comprised of multicultural and multilingual learners would enrich the learning climate. Therefore, classes were deliberately formed to reflect the demographics of the community, with each class comprising approximately 70% Latino families, 20% Southeast Asian families, and 10% other ethnic groups. In multiability, multilingual groups of 25 or fewer, adults were (a) provided instruction in reading and responding to literacy materials of adult interest; (b) provided a selection of books, strategies, and ideas for use with their children; and (c) encouraged to share their children's stories and drawings and to discuss literacy events, and their importance, in their lives and the lives of their children. Emphasis was placed on family contexts for literacy use with specific emphasis on family storybook reading. In addition, parents were encouraged to join with their children in multiple uses of literacy, including reading and writing oral histories, composing letters to friends and relatives as well as notes to family members, journal keeping, story writing, and publishing. Parents were also taught how to help children with homework, types of questions they might ask the classroom teacher to find out about their children's progress and how to ask questions of their children about the school day.

Instructional reading/writing strategies used with these adults have received support in the professional literature related to adult literacy education (Thistlethwaite, 1983) and included assisted reading and writing, paired rereadings, cooperative learning, and metacognitive training. Attention was given not only to the acquisition of literacy skills and strategies, but also to developing individual skill in exploring the relationship of literacy, itself, to the learners and their families. To develop this skill, each day learners made an entry in a journal about a shared literacy event from the day before, and reflected in writing about how the event influenced themselves and their children.

Topics for reading and writing were deliberately chosen to stimulate a discussion of ethnicity and culture, as a way to "discover and explore ethnic connections" (Ferdman, 1990). Introduction to each literacy lesson was based in each learner's first language and culture by introducing key concepts or vocabulary in the first language or by asking learners to connect settings, situations, or experiences in their reading to those in their countries of origin or their own cultures. This practice consistently led to a discussion of multiple perspectives on a particular idea or concept which served as a bridge to the reading of the text in English. Emphasis on building an awareness that print literacy was largely dependent on each learner's background and experiences was central to each lesson.

Data Sources

Several measures were employed to collect evidence of the impact of the program on parents' literacy acquisition and on the incidence of shared literacy events in the home setting. Measures included the following:

Reading fluency. Within 2 weeks of entry to the project and again following 40 instructional hours, parents completed an assessment of their fluency in reading in English. The instructional cycle of 40 hours was selected even though data indicate that adults require between 50 and 100 instructional hours to make significant gains in reading (Mikulecky, 1990). Since this project was designed to promote high attendance and relatively intensive practice through shared literacy practice at home, it was hypothesized that measurable gains would be made in a shorter time period. Parents chose an assessment passage in English from a representative sample of materials adults encounter on a daily basis. Included for selection were current newspaper articles of local and national interest, legal papers, short stories, nonfiction selections and children's picture books. The chosen selection was used for pre- and post-assessment. A running record of each adult's oral reading behaviors, performed following a silent reading of text, was completed. During pretesting, if the adult indicated that the task was too difficult to attempt, interventions were provided to decrease the level of difficulty. Interventions included previewing the passage before reading by discussing the topic in the first language (L1), a read aloud by the examiner followed by discussion in L1 to familiarize the learner with the passage topic and ideas, and/or assistance with specific words or phrases during reading. No interventions were used during posttesting.

Data have been collected and analyzed on a sample of 9 parents who were identified as having minimal literacy proficiency in both their first language and their second language (L2). Participants selected for study were those whose pretest performance on the running record exceeded an error rate of 10% and could therefore be considered to have entered the project with low print literacy in English. It was hypothesized that these lowest performing learners were likely to be the hardest to teach in the multilingual, multiability setting and thus would provide a valid measure of project effectiveness. Of the 9 participants in the sample, 6 were Latino, 2 were Asian, and 1 was Portuguese. Years of schooling in their own countries ranged from 4 to 12 years, with an average of 7 years.

Attendance. Daily attendance rates were recorded. The mean attendance rate for project participants for each cycle was compared to the average attendance rate for adults in basic education programs serving parents in a nonintergenerational model in the same community. These data are available for all 367 adults participating in the project.

Attrition. The number of participants who enrolled and completed at least one full instructional cycle was calculated and compared to national averages for program completion of adults in basic education programs. These data are available for all 367 adults participating in the project.

Parent/child literacy. Self-report data on the incidence of parent/child literacy activities in the home setting were collected on a weekly basis. Data collected included: number of selections read to the child by the parent; number of selections read to the parent by the child; number of times joint writing activities occurred; number of visits to the library; number of books borrowed or bought; number of times games were played involving words or reading; number of meetings held with the child's teacher; and number of times parents assisted the child in completing homework. Self-report data were analyzed and compared at the end of each instructional cycle, with a focus on the degree to which the incidence of literacy events suggested the existence of a routine or consistency in the utilization of literacy at home. Self-report data have been collected from a sample of 10 families.

RESULTS

Results are reported in relation to the impact of the program on parents' literacy learning and on the incidence of parent/child literacy events in the home setting.

Parents' Literacy Learning

The impact of the intergenerational approach on parents' literacy learning was evaluated on the basis of three behaviors: attendance on a daily basis, completion of at least one instructional cycle, and reading proficiency as measured by a running record. The average attendance rate was 74%. This contrasts with an average attendance rate of approximately 50% in adult education programs nationally (Sticht, 1988–89), and an average attendance rate of 32% for adults in a traditional adult basic education program in the same community. It should be noted that in addition to the intergenerational versus nonintergenerational focus of the two programs, they also differ in grouping plans (multiability and multilingual in the focal program versus homogeneous and monolingual in the local program) and instructional strategies (strategy-based in the focal program versus skill-based in the local program).

With regard to retention, during the first year 72% of all learners who remained in the program for at least 2 weeks completed at least one full 15-week cycle; during the second year, 93% of all learners who remained in the program for at least 2 weeks completed at least one full 15-week cycle. During the third year, 92% of all learners who remained in the program for 2 weeks completed at least one 15-week cycle. The average retention rate over the 3-year study was 85%. Of those who discontinued, reasons for leaving the program included employment, relocation to a new community, serious illness, and pregnancy. In addition, 47% of all learners who completed one cycle enrolled in at least one more cycle. A review of attrition rates reported for other programs reveals approximately 50% as the most frequently reported statistic (Sticht, 1988–89). Using the local adult basic education program as the comparison group, the attrition rate for the same academic years was 57%. In making these comparisons, however, it is important to note that the short-term length of each cycle (9–15 weeks) may differ from the instructional periods for which the comparison data are based.

To assess the impact of the program on reading performance, the oral reading proficiency of nine adults was examined. An analysis of the pre- and post-testing reading performances reveals an average decrease in oral reading miscues of 13% after 40 instructional hours. Using Clay's (1979) criteria, 6 of the 9 subjects shifted their performance on the tested passage from "difficult" to "learning." One learner shifted her performance from "difficult" to "easy." Since the pretest performance was accompanied by assistance from the examiner as appropriate and the posttesting performance was unassisted, the rate of growth was actually more substantial than the change in percentage indicates.

The Practice of Family Literacy

The analysis of family literacy behaviors was based on weekly self-report data submitted by 10 families during the first instructional cycle of their enrollment. None of the families in the sample reported that they had engaged in shared literacy activities with their children prior to enrollment in this project. The first instructional cycle was selected so that we could examine the average length of time necessary for parents and children to establish a routine for sharing literacy events. In addition, since the purpose of the analysis was to ascertain whether or not shared literacy events became a routine practice between parents and children, a single 15-week cycle seemed sufficient as a measure.

The change in family literacy behaviors was measured by examining practices reported each week as well as by comparing the number of literacy events reported during the first and last week of the instructional cycle. Data indicate that, during the first week of the project, parents were reading to children an average of twice a week and by the last week in the project, they reported reading to children three to four times each week. Increased emphasis was placed on asking about homework and in providing children help in completing it, with routine practice changing from only two times in the first week to almost daily during the last week. In addition, most families had visited the library at least once during the last week of the project. Literacy events in which practices changed little or not at all included shared writing, which was reported as occurring only about once a week throughout the 15-week period, and listening to children read, which was reported as occurring less than twice a week with no change during the instructional cycle.

An examination of the weekly self-reports of one family reveals a typical family profile. As shown in Table 1, Marta, whose two children were ages 5 and 7 at the time of her participation, read to and with her children several times each week, asked or helped with homework daily, and frequently talked about school and reading. In addition, they frequently viewed television together and discussed the program they viewed, emphasizing visual and oral literacy as well as print literacy. However, Marta never reported writing a note or message to her children, and began to visit the library only in the 11th week of the project, after her teachers had begun to place more emphasis on this literacy event.

Table 1

Parent/Child Weekly Activities—Marta

	Week														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Read to child	4	4	6	6	1	5	3	5	3	0	6	3	4	3	8
Listened to child red	3	5	7	6	0	2	2	2	1	3	4	2	1	3	4
Helped with homework	5	5	5	6	1	5	5	5	5	5	5	5	5	5	5
Asked about homework	5	5	5	5	5	1	5	5	5	5	5	5	5	5	5
Wrote note or message to child	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Helped child write a letter or greeting card	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0
Played a game with child involving words	0	0	4	2	0	0	3	1	2	0	0	0	1	0	0
Viewed television together	5	5	3	0	0	0	0	0	0	1	3	0	2	4	7
Discussed program viewed	0	5	3	0	0	0	0	0	0	1	1	0	2	4	4
Asked child questions about school or reading	0	0	2	2	1	5	5	5	5	5	5	5	5	5	5
Visited a library	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2
Borrowed or bought a book	3	2	4	5	1	11	2	5	3	0	6	3	4	5	7

DISCUSSION

The findings from this study suggest some promising directions for the integration of intergenerational literacy efforts with adult education programs. First, the consistency of the attendance rates across learners and across instructional cycles suggests that an intergenerational approach combined with effective practices in the teaching of literacy supports high and long-term attendance. The importance of this finding can be assessed in relation to evidence of the number of instructional and practice hours which correlate with achievement gain by adults in reading. As noted previously, evidence suggests that it takes 50 to 100 hours for an adult to achieve one year's growth in literacy, resulting in the need for several hundred hours for a beginning reader to master reading the newspaper. Consequently, it is reported that only 10% to 15% of adults in current literacy programs ever reach this level (Diekhoff, 1988). It would seem, therefore, that if adult new readers are to make both substantial and rapid progress in learning to read and write, instructional opportunities must be both intensive and frequent. In this study, two practices seem to address this need. First, by offering 8 hours of instruction each week, adults received a relatively heavy dose of instructional time. Second, by encouraging and monitoring the routine practice of family literacy, opportunities for utilization and practice were high and likely contributed to the rapid gains in proficiency. Since the design of this study did not include an analysis of the effects of instructional strategies versus literacy practice through parent/child events, it can only be concluded that the combination of effective instruction with family literacy practice promotes rapid gains for adult learners.

Self-report data indicate steady and systematic practice of shared literacy in the home setting. As noted above, such events provide the parent increased opportunities for practice in natural and meaningful settings, thus promoting more rapid growth in literacy. As well, existing evidence (e.g., Clark, 1984; Durkin, 1978; Teale, 1984) indicates that such events serve to prepare young children for successful acquisition of early literacy, and to promote continued success for school-aged learners (Snow, Barnes, Chandler, Goodman, & Hemphill, 1991). In reviewing the self-report data, several findings are important. First, the relatively rapid acquisition of a range of shared literacy behaviors is consistent with data reported by Fitzgerald, Spiegel, and Cunningham (1991) that indicate that both high- and low-literacy parents are positive about home literacy practices and need not be persuaded of their importance; rather, these researchers suggested that low-literacy parents need to be shown how they might serve as role models. In the present study, demonstration and modeling led to routine practice of family literacy within a relatively brief period of time. Second, the finding that storybook reading emerged as a frequent behavior while shared writing did not is also consistent with the finding of Fitzgerald et al. (1991) that parents tended to characterize early literacy development mainly with regard to reading and to the exclusion of writing. Despite a fair amount of emphasis on shared writing (e.g., examples of the kinds of notes parents and children might compose to each other, discussions of parent/child dialogue journals, the recording of family histories) few families reported that shared writing occurred regularly. Third, the finding that parents visited the local library only once per month reveals what may well be a flaw in the project's design. Since parents routinely borrowed books from the lending library available through their literacy classes, it may be that they did not have a need to obtain additional reading materials. However, since using the local library is one way to establish a resource for life-long support of literacy, the need to develop and promote a library "habit" is an important one that the design of the project did not promote effectively.

Intergenerational literacy remains a relatively new field, and there is much to be learned. Questions that must be explored include: (a) Are the shared literacy practices that emerge from intergenerational literacy programs sustained after parents leave the program? (b) Do attempts to introduce parents and children to school-based literacy supplant existing family literacy practices that may be valuable, though not school-based? (c) Programs such as the one described here emphasize teaching parents about school literacy. How can teachers learn about and build on existing family literacy practices?

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ASSESSING THE PREDICTIVE VALIDITY OF PRIOR-KNOWLEDGE ASSESSMENT

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Prior knowledge assessment has recently come under greater scrutiny because measures of knowledge have appeared on state assessment devices (Leslie & Karbon, 1990: Valencia, Stallman, Commeyras, Pearson, & Hartman, 1991). When tests are used for making high-stakes decisions such as grade retention and program placement the validity of the test components is critical. If prior-knowledge assessments are to be included on assessment devices, their use in explaining comprehension scores must be validated. Valencia and Stallman (1989) compared the correlations between two prediction tasks and comprehension. Given a topical prompt, students were asked either to indicate the likelihood of statements being in a passage or to write ideas that would be in the passage. Their results did not support one prediction task over the other; both correlated similarly with comprehension.

The purpose of the present study was to examine the predictive validity of two methods of prior-knowledge assessment: free association and prediction. Free association has been found to be correlated with comprehension (Langer, 1984; Taft & Leslie, 1985). The first question posed by the present study was: would different instructions lead to higher prior knowledge scores? The second question was: would responses from different instructions be differentially correlated with comprehension? The instructions differed in the precision of response indicated to the student.

One condition gave standard, very general, free-association instructions. The student was told to "say what you think of" when a concept was presented. It was reasoned that given these instructions, a student might generate related associations indicating the *breadth* of knowledge the student has with the concept, yet a precise meaning might not be given. For example, if a student said, "blacks and whites," and "Martin Luther King," to the prompt "segregation," we might infer that the student had some knowledge of concepts related to segregation. But we cannot infer that the meaning of segregation is understood. Elementary-grade students often do not give associations that allow us to determine whether or not they know the meaning of a word. That is, they do not give definitions, antonyms, or synonyms very often. They tend to give examples based on criterial attributes of the concept (Bruner, 1956), or personal experiences. It is not clear whether they do not give higher order, or more abstract responses because of the generality of the instructions, or because they do not possess the ability to abstract concepts.

To examine whether more precise instructions would generate definitional attributes of concepts, the second type of instructions asked students directly, "What does XX mean?" or "Who is/was YY?" These instruction have the advantage of asking students for a precise, definition-type response. Thus, students may be more likely to give such a response, or if they are not familiar with the concept, might say, "I don't know."

The second type of prior-knowledge measure examined was prediction of text content. Valencia and Stallman (1989) used written prediction tasks as measures of prior knowledge and found low to moderate correlations with comprehension, particularly on expository text. Other research on prediction has examined how students make predictions during reading and whether they verify the accuracy of their predictions. Afflerbach (1990a) found that high prior knowledge aids adults in predicting text content and structure, as well as in generating main ideas. Afflerbach (1990b) found high prior knowledge to be related to the frequency of predictions in stories and essays. Type of text did not affect the frequency of predictions.

Our prediction task is similar to the initial hypothesis strategy of Afflerbach (1990a). It is a single prediction *before* reading. Also, like Valencia and Stallman (1989), students were given some information from which to make predictions before reading. Students were asked to use the title of the selection and the free-association concepts to which they had responded and make a prediction of what the selection would be about. Thus, the third question posed by the study was: would predictions correlate with comprehension? It was reasoned that students who could interrelate the concepts and the title of the passage and make correct main idea predictions about the content of the text would be more likely to comprehend the text than students who would make fewer correct predictions.

METHODS

Subjects

Students were all 72 sixth graders from one suburban (population 33,559) public and one private school from a small town (population 8,550) in Wisconsin. The schools were of similar size (400–460 students). The sixth graders' median Total Reading NCE score on the *CTBS* was 72, with a range of 8–99.

Materials

Narrative and expository selection from the *Qualitative Reading Inventory* (*QRI*)(Leslie & Caldwell, 1990) were used. All passages contained a free-association test of prior knowledge. Comprehension was assessed through retelling and answers to explicit and implicit comprehension questions. Explicit questions tapped information stated directly in the passage. For example, on a sixth-grade level passage about earthquakes, Question 2 asks, "How did chickens behave before the Chinese earthquake?" In the passage it is stated, "Chickens refused to enter their coops." Implicit questions required the reader to use information in several places in the text and/or their prior knowledge to make inferences. For example, on the passage about earthquakes, Question 4 asks, "Why might dogs sniff the ground before an earthquake?" In the second paragraph of the passage it states that police dogs howled, would not obey their masters and kept sniffing the ground. In the next paragraph it stated that perhaps some animals can smell certain gases that escape from the earth. Putting these two pieces of information together leads to the correct answer, "They may smell escaping gases." The number of comprehension questions per passage varies according to the readability level of the texts. The primer through second levels have six questions, the third through sixth levels have 8, and the junior-high level has 10.

Procedure

Each student was seen individually by one of the authors. Word lists were given from the *QRI* to determine an appropriate readability level of passages with which to begin. A practice free-association task was given and the examiner provided feedback and modeled alternative responses. Students were then given a passage to read. They were told the title of the selection and given one of two sets of directions for the free-association task. Students were randomly assigned to the Standard Free Association Condition and were asked, "What do you think of when I say . . . ?" (each concept is given). Students were also randomly assigned to the Definitional Condition and were asked, depending on the concept, "What is XX," or "Who is YY and what is s/he known for," or "What does ZZ mean?"

After responding to concepts, students in either of the prediction conditions were asked, "Given the title, ABCD, and the concepts, XX, YY, ZZ, what do you think the passage will be about?" Thus, the experiment consisted of four groups: (a) Standard Free Association (SFA), (b) Standard Free Association plus prediction (SFA+P), (c) Definitional Free Association (DFA), and (d) Definitional Free Association plus prediction (DFA+P+P). After reading each selection students were asked to retell it, and four explicit and four implicit comprehension questions were asked. Data presented here are those of the 57 students who read four sixth-grade passages, two narrative and two expository, where comprehension on at least one passage was above 50%.

Scoring

Free association is scored on a 3-2-1-0 level of abstraction scale with a score of three representing definition, synonym, or antonym responses. A score of 2 is given for examples, defining characteristics, or functions. One point is given for general associations, responses to a part of the concept, and firsthand experiences. No points are given for sound alikes or other associations unrelated to the concept.

Comprehension questions were scored right or wrong based on synonym scoring and the answers given in the *QRI*. Retelling was scored by comparing propositions recalled to an *QRI* scoring map which identifies important and frequently retold propositions (Leslie & Caldwell, 1990, p. 261).

Prediction was scored in three ways: (a) Proposition scoring: one point for each proposition contained in the prediction which was in the text; (b) Single main idea scoring: one point for accurately predicting the main idea of the text (judged against the first question on each passage in the *QRI* stated as the main idea of the passage; (c)

Multiple main idea scoring: one point for each main idea included in the prediction that was included in the text, whether or not any of them represented the main idea as identified on the *QRI*.

RESULTS

To answer the first question posed by the study, whether instructional conditions resulted in higher scores on the dependent measures, a 2 × 2 × 2 multivariate analysis of variance was conducted with Instructional condition (Free association, Definitional), and Prediction (yes, no) as the between-subjects factors, text type (narrative, expository) as the within-subjects factor and free association, retelling and comprehension scores as the dependent variables.

The mean proportion free association scores for Conditions 1–4 (SFA, SFA+P, DFA, DFA+P) were .42, .39, .46, and .46, respectively, on narrative text, and on expository text were .55, .55, .57, and .61. The mean proportion retelling scores for Conditions 1–4 were .34, .34, .35, and .37 for narrative text, and .31, .29, .26, and .27 on expository text. The mean proportion comprehension scores for Conditions 1–4 were .60, .56, .57, and .62 for narrative text, and .61, .59, .64, and .65 for expository text.

The multivariate main effects of Instructions, $F(3, 51)=2.59$, $p<.07$, Prediction, $F(3, 51)<1.0$, and the interaction of instructions by conditions, $F(3, 51)<1.0$, were not statistically significant. The multivariate main effect of text type was statistically significant, $F(3, 51)=23.12$, $p<.001$. Univariate tests found that students retold proportionately more propositions from *narrative text* (mean of all conditions=.35) than expository text (mean of all conditions=.28), $F(1, 53)=12.85$, $p<.001$, *despite* having more prior knowledge of the concepts from expository text (mean=.63) than from narrative text (mean=.44), $F(1, 53)=68.13$, $p<.001$. No differences were found between comprehension of narrative (mean=.59) and expository (mean=.63) test. No interactions with the passage-type variable were significant (all Fs<1.0).

The next question to be answered was whether free-association instructions resulted in differential correlations with retelling and/or comprehension of text. Because the analyses reported above found no differences on any dependent measure attributable to instructions, the prediction/no predicting groups were collapsed within each instructional condition. Thus, data from SFA and SFA+P were combined, as DFA and DFA+P. Because of the possibility of differential correlations for narrative and expository text, the regression analyses were conducted separately.

Results in narrative text indicated that in the SFA and SFA+P conditions, free-association responses were correlated to retelling, but the correlation was not statistically significant, $r(31)=.34$, $p<.07$. The correlation with comprehension was negligible $r(31)=.10$, $p>.10$. In expository text, free association responses were not statistically significantly related to retelling $r(31)=.25$ or comprehension $r(31)=-.10$, $ps>.10$. Results were somewhat different for DFA and DFA+P conditions where responses to the free-association concepts were statistically significantly related to retelling $r(26)=.46$, $p<.05$, and comprehension $r(26)=.64$, $p<.01$ of narrative text, but not to retelling $r(26)=-.24$ or comprehension $r(26)=.12$, $ps>.10$, of expository text.

The final question to be answered was whether prediction was correlated with retelling and/or comprehension. to answer this question, data from both prediction groups (SFA+P, DFA+P) were combined. The ability to predict multiple, correct main ideas correlated with retelling of expository text, $r(27)=.51$, $p<.01$. The correlation with comprehension of expository text was notable but not statistically significant $r(27)=.35$, $p<.08$. The correlations on narrative text were negligible, $r(27)=.27$ for retelling, and $r(27)=.09$, $ps>.10$, for comprehension.

DISCUSSION

The findings indicate that although definitional instructions did not yield higher prior-knowledge scores than free-association instructions, the correlations between the knowledge scores and comprehension of *narrative* text for the two instructional groups were different. With definitional instructions, the correlations between prior-knowledge scores and both retelling and comprehension of narrative text were statistically significant. With standard free-association instructions, the correlation between prior knowledge and retelling of narrative text although not statistically significant, was worth noting, whereas with comprehension of narrative text was negligible.

What did definitional instructions elicit in students that was more related to retelling and comprehension than responses to standard free-association instructions? We propose that if students knew the concept and were given definitional instructions, then they were able to give definitional attributes of concepts, scored as 3 points. In addition, they did not give general associations, scored as 1 point, because the instructions asked for a more precise response. If students did not know the concept they indicated this and received a score of 0. An examination of the frequencies of 0-1-2-3 point responses for the two instructional groups showed that the definitional condition had somewhat more 0-point (28% vs. 22%) and 3-point (32% vs. 27%) responses than the free-association condition. The free association instructions generated more 1-point responses (23%) compared to the definitional instructions (13%). Both groups produced similar percentages of 2-point responses (27% and 28%).

These preliminary results suggest that definitional instructions tapped more directly what students knew and did not know about concepts, and this resulted in the higher correlations with retelling and comprehension of narrative text. Thus, these sixth graders were able to give somewhat more definitional attributes when prompted by instructions.

Knowledge of free association concepts are only rarely directly assessed after reading on the *QRI*. Thus, knowing definitions of concepts prior to reading the selection does not *directly* result in a higher comprehension score. Rather, the relationship is posited to be indirect; knowledge of the concepts represents a knowledge base related to the content of the selection. The relationship of prior knowledge to retelling is direct and indirect. Certainly if the passage contains information already known by readers, they will be more likely to remember it and retell it than those who did no know it prior to reading. In addition, it is posited that readers with relevant prior knowledge will be able to learn new information more readily (and thus retell it) because of the association of the new information to the old (Anderson & Pearson, 1984).

In expository text, none of the correlations between responses to concepts and retelling or comprehension were statistically significant in either instructional condition. It is not clear why associations or definition of concepts did not correlate with comprehension of expository text. An examination of the standard deviations of all measures finds similarity between text types, thus statistical characteristics of the data do not explain the results. Other researchers have found fee association to concepts to be correlated with retelling (Leslie & Caldwell, 1990) and comprehension of expository text (Langer, 1984; Leslie & Caldwell, 1990; Taft & Leslie, 1985).

The finding that prediction of main ideas prior to reading is correlated with retelling and comprehension of *expository* text, yet is not meaningfully related to retelling or comprehension of *narrative* text, is consistent with the findings of Valencia and Stallman (1989), although their correlations on expository text were also quite low (mean=.23). In contrast, researchers who examined the frequency of expert readers' ongoing predictions in narrative and expository text during think alouds found that readers with higher knowledge made more predictions independent of text type (Afflerbach, 1990b; Olson, Mack, & Duffy, 1981). It is likely that the age and task differences among these studies contributed to the different results.

In the present study, the number of correct main ideas predicted was very low (the mean number on narrative text was 1.21 and on expository was .70). The relationship of the means and standard deviations on the text types were similar, thus no statistical reason for the differential correlations on narrative and expository text was likely. Perhaps the ability to integrate concepts and the title of the selection is more related to children's retelling of *expository* text because of the greater difficulty of expository text for these students. Recall that fewer propositions were retold from expository than narrative text, despite higher knowledge scores on expository text. Perhaps knowledge becomes more important when text is harder (Carver, 1992). The difficulty of expository text lies in its less familiar structure and comprehension of its content requires understanding of the logical connections among concepts (Spiro & Taylor, 1987). In contrast, comprehension of narrative text can occur from an understanding of goal-based action of characters, which is more familiar to children. Thus, although more correct main idea predictions were made on narrative texts, students could retell and comprehend narrative text whether or not they could make main idea predictions.

The relationship between prior knowledge and comprehension likely depends on the amount and type of information given in the knowledge-assessment procedure (e.g., single words, phrases, specific vocabulary, general themes), instructions given to the student, and how comprehension is assessed. The complexity of knowledge assessment has been recognized (Rowe & Rayford, 1987; Valencia et al., 1991) and our future research will examine the different ways of measuring prior knowledge and their relationship to retelling and comprehension of narrative and expository text.

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ASSESSING EXPOSURE TO PRINT: DEVELOPMENT OF A MEASURE FOR PRIMARY CHILDREN

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The purpose of this investigation was to develop a measure of individual exposure to print for children in primary grades. Barker, Torgeson, and Wagner (1992) developed a title recognition test for third graders for use in their investigation of the role of orthographic processing on various reading tasks. However, the titles for their measure were generated by the third-grade students in their sample. Our goal was to construct a measure that would have utility for a wider audience. Initially, our instrument was developed for use in a longitudinal study of early indicators of later reading disabilities (Vaughn & Schumm, in preparation); however, we also anticipated that the instrument would be useful in other studies as well.

METHOD

Subjects

Data were collected from 158 subjects in seven second-grade classes at two public elementary schools in southern Florida. This large metropolitan district has a diverse multicultural population which is reflected in the two schools. Teachers were requested to identify any students of limited English proficiency (LEP). The school district defines "LEP" as students whose home language is one other than English (determined through a home language survey) and whose English aural comprehension, speaking, reading, or writing proficiency is below that of average English-speaking students of the same age and grade. Due to school structure and class assignment policies, no LEP students were members of any of the seven classes.

Gender, age, and ethnic data for each student were obtained from the students' school records and from district records. The final subject pool was 49% male and 51% female, ranging in age from 7 years, 5 months to 9 years, 6 months (*M*=8 years, 2 months; *SD*=4.5 months). The ethnicity of the sample was 45% white, 39% Hispanic, 14% non-Hispanic black, and 1% students of other ethnic backgrounds (largely Asian).

Instrument Development Procedures

Cunningham and Stanovich (1991) developed the *Title Recognition Test* (TRT) as a measure of the relative free-reading volume of fourth, fifth, and sixth graders.

According to Cunningham and Stanovich, such a measure is predictive of a variety of verbal abilities (including spelling, vocabulary, verbal fluency, and word knowledge) in fourth-, fifth-, and sixth-grade children. Analogous to two prior measures of adult print exposure, the *Author Recognition Test* and the *Magazine Recognition Test* (Stanovich & West, 1989), the TRT requires children to scan a checklist of 25 target titles of popular children's books embedded within 19 foils and identify those known to be real books. Titles are chosen on the basis of familiarity and popularity within the age group. Selections known to be part of the regular classroom reading curriculum are excluded. Therefore, the target items are intentionally biased toward out-of-school reading. The instrument has four advantages over other measures of exposure to print (e.g., diaries, questionnaires, interviews): the use of foils allows easy detection and correction for guessing, the checklist method makes the assessment immune to social desirability effects, the cognitive demands of the task are quite low, and the administration time is short (approximately 5 minutes).

We used the Cunningham and Stanovich format of checklist with target items and foils to construct a primary version, *Title Recognition Test–Primary* (TRT-P). Real book titles for TRT-P were culled from four sources: (a) a master list of all books checked out by first, second, and third graders for 3 consecutive weeks in two public schools which were ethnically balanced similarly to the county itself; (b) the public library children's section managers' nominations for the most popular books among young readers; (c) teacher- and child-generated lists from ethnically balanced schools, kindergarten through third grade; and (d) the titles listed in "Children's Choices for 1990" and "Children's Choices for 1991" (*Reading Teacher*, 1990, 1991).

A master list was compiled including any book appearing on two or more of the original source lists. Any title known to be used as part of the regular classroom curriculum was eliminated. Titles were randomly selected, beginning with those appearing most frequently. Forty-four real books were chosen for the first pilot version and interspersed with 19 foil titles generated by the researchers. Scoring of the TRT-P involved determining the proportion of correct titles identified minus the proportion of foils checked.

This first version of TRT-P was then piloted in one regular second-grade classroom in a public school not otherwise involved in the study to determine any items showing floor or ceiling effects. Titles that received recognition from no children or all children were eliminated and the remaining titles were reordered to eliminate the possible effects of being first or last on a page. A second pilot test was conducted with the revised measure that contained 34 real titles and 15 foils.

The second pilot was conducted in five second-grade classrooms in a different public school, also not otherwise involved in the study. Two researchers who participated in the construction of the measure jointly administered all pilot tests to insure consistency of directions and administration and to determine any problems that might exist. One item that yielded a ceiling effect was eliminated.

The final TRT-P contained 48 items: 33 real book titles and 15 foils. This was administered in small-group settings (5 to 6 students with one researcher) in which the list was read aloud to the children who followed along on their papers, marking only those items they knew to be titles of real books. The instrument required approximately 5 minutes to administer.

Measures

Wechsler Intelligence Scale for Children–Revised (WISC-R). A short form of the Wechsler Intelligence Scale for Children–Revised, (WISC-R) (Wechsler, 1974) was administered as an estimate of verbal ability and nonverbal reasoning ability. We selected the Vocabulary (verbal) and Block Design (performance) subtests because of their high reliability (.91) and high correlation with the full scale. Together, these two subtests provide a good measure of overall intelligence (Sattler, 1988).

Kaufman Test of Educational Achievement (K-TEA). The K-TEA (Kaufman & Kaufman, 1985) is an individually administered, frequently used standardized measure of school achievement for children in Grades 1 through 12. The Reading Decoding (60 items), Reading Comprehension (60 items), and Spelling (50 items) subtests were used to assess reading and spelling achievement. Administration of the three subtests requires approximately 50 minutes.

The Reading Decoding subtest measures the subject's ability to identify letters and pronounce both phonetic and nonphonetic words of increasing difficulty. The Reading Comprehension subtest uses paragraphs of increasing difficulty and varying length as stimuli for student response to one or two questions concerning the material. Subjects may read orally or silently; responses are oral, or for some items gestural. The items assess both literal and inferential comprehension. The Spelling subtest is an orally administered written response measure using a list of increasingly difficult words to assess spelling ability.

Internal consistency for Grade 2 is high. Split-half reliability coefficients are: Reading Decoding, .95; Reading Comprehension, .94; and Spelling, .93. Content validity was assured through curriculum experts during item development of each subtest. Construct validity ranges from .82 (Spelling) to .88 (Reading Comprehension) calculated by correlations between subtest and battery composite scores.

Bruce Phoneme Deletion Test (BPDT). The BPDT (Bruce, 1964) is a 30-item phonological processing test designed to measure the subject's ability to delete phonemes from words. The test items include one-, two-, and three-syllable words from which a beginning, middle, or ending phoneme is to be deleted. In each case, the child is asked to state what word is "left" after the target phoneme is deleted. Examples and practice items are provided. The maximum score is 30 points, one point per item. Administration time is approximately 10 minutes. Reliability of the BPDT is .92 (Cronbach's alpha). The predictive validity is .67.

Data Collection Procedures

All data collection was conducted by trained personnel. Training for each instrument consisted of an overview of administration, scoring procedures, and practice sessions among the testers. Researchers performed periodic checks of each tester during the initial weeks of testing to ensure adherence to established testing procedures and intertester consistency.

The K-TEA, BPDT, and the WISC-R were individually administered. The TRT-P was given in small groups of five to six students. Testing was done in four counterbalanced waves over the course of 6 months, from November 1991 to April 1992.

RESULTS

The internal consistency of the final version of the TRT-P was satisfactory with a Cronbach's alpha coefficient of .82. Table 1 displays the titles and foils included in the TRT-P with the percentages of recognition for each. The range of recognition for the titles was 13.3% to 80.4%, and for the foils 15.8% to 40.5%. The TRT scale had a range of 6.0% to 88.7% for the titles and 3.0% to 19.5% for the foils. There was more guessing by primary children than by the intermediate children in Cunningham and Stanovich's (1991) study.

Table 2 presents the intercorrelations among variables. There were no statistically significant correlations between the TRT-P and any of the other variables (age, verbal ability, nonverbal reasoning ability, spelling, reading decoding, reading comprehension, and phonological processing). The phonological processing factor, however, yielded high correlations with spelling (r=.49), reading decoding (r=.47), and reading comprehension (r=.48).

Three stepwise regression analyses entered age, WISC-R Block Design, phonological processing, and the TRT-P as independent variables with spelling, reading decoding, and reading comprehension as dependent variables. Phonological processing and age were the only two statistically significant factors for predicting both spelling [R=.56, R^2=.31, F(2, 147)=33.03, p=.000] and reading decoding [R=.50, R^2=.25, F(2, 147)=24.28, p=.000] In predicting reading comprehension, WISC-R Block Design, phonological processing, and age were all statistically significant contributors [R=.63, R^2=.40, F(3, 146)=32.24, p=.000]. Phonological processing is recognized as an important factor in early reading. The TRT-P did not prove to be a statistically significant factor in any of the regression analyses.

DISCUSSION AND FUTURE DIRECTIONS

The purpose of this investigation was to develop and evaluate a scale of print exposure for use with primary grade children. The findings concerning the internal consistency of the measure and the range of difficulty among items are encouraging. It appears that the TRT-P is a well-constructed measure that has discriminative properties.

The TRT developed for fourth through sixth grades had the highest correlations with spelling and word recognition (Cunningham & Stanovich, 1991). The TRT also exhibited statistically significant correlations with age, nonverbal intelligence, phonological processing, verbal fluency, general information (Cunningham & Stanovich, 1991), and with reading comprehension (Cipielewski & Stanovich, 1992). The title recognition test developed for third grade (Barker, Torgeson, and Wagner, 1992) was significantly correlated with timed word identification, oral and silent reading rates, phonological choice, and orthographic choice measures. In our study, the TRT-P did not produce statistically significant correlations with any other variables. Apparently, the title recognition measure is not as valuable a tool with young children as it is with older students.

Differences between the studies based on age (primary vs. intermediate grades)

Table 1

Percentage of Title Recognition Test Items Recognized as Real Titles

		% Recognized
Title	Jimmy and Joe Find a Ghost	13.3
	The Magic School Bus Inside the Earth	51.9
	Miss Nelson Is Missing	80.4
	The Very Hungry Caterpillar	63.9
	The Cut-ups	13.9
	In a Dark, Dark Room	47.5
	Amelia Bedelia and the Surprise Shower	72.2
	Are You My Mother?	58.9
	Chicka Chicka Boom Boom	27.2
	The Polar Express	62.7
	Hot Air Henry	19.0
	The Berenstein Bears and the Spooky Old Tree	77.2
	Corduroy	34.1
	Hop on Pop	57.0
	Madeline	45.6
	Brown Bear, Brown Bear	38.6
	The Napping House	22.2
	The Baby Blue Cat Who Said No	25.3
	Jack and Jake	31.6
	Ira Says Goodbye	41.1
	The Kid in the Red Jacket	42.4
	Seven Diving Ducks	36.7
	Princess Furball	23.4
	The Stupids	31.6
	A Mouse in My House	58.2
	Nate the Great	31.0
	My Mother Lost Her Job Today	36.1
	Good Hunting Blue Sky	25.9
	The Bears' Picnic	62.0
	Put Me in the Zoo	51.3
	Babar	67.1
	Arthur's Tooth	80.4
	Encyclopedia Brown and the Case of the Treasure Hunt	48.1
Foil	Zak and the Dream Machine	15.8
	The Adventure of Barney the Pig	17.1
	"No, No, No!" Cried the Babysitter	17.1
	The Evil Witch's Spell	31.0
	No Room for Turtles	25.9
	Dancing Shoes for Darla	26.6
	Whose Room Is It Anyway?	19.0
	Prince Trilium	15.8
	The Haunted Hallway	29.7
	The Playground Wars	25.9
	The Terrible Trouble on Terwilliger Street	22.2
	The Magic Penny	40.5
	The Mystery of the Lost Umbrella	27.8
	The Great Submarine Sandwich Race	21.5
	My Brother the Pest	31.6

Table 2

Intercorrelations among Measures

Measure	1	2	3	4	5	6	7	8
1. Age	—							
2. WISC-R Block Design	-.10	—						
3. WISC-R Vocabulary	-.09	.39**	—					
4. Word Recognition	-.23**	.34**	.17*	—				
5. Comprehension	-.23**	.55**	.24**	.78**	—			
6. Spelling	-.31**	.30**	.19*	.82**	.76**	—		
7. Phonological Processing	-.04	.35**	.23**	.47**	.48**	.49**	—	
8. TRT-P	-.09	.07	.02	.13	.10	.14	.10	—

Note. WISC-R Book Design=Wechsler Intelligence Scale for Children–Revised, Block Design subtest; WISC-R Vocabulary=Wechsler Intelligence Scale for Children–Revised, Vocabulary subtest; Word Recognition=Kaufman Test of Educational Achievement Reading Decoding; Comprehension=Kaufman Test of Educational Achievement Reading Comprehension; Spelling=Kaufman Test of Educational Achievement; Phonological Processing=Bruce Phoneme Deletion Test; TRT-P=Title Recognition Test–Primary.
*$p<.05$. **$p<.01$.

may be due, in part, to the fact that younger children are read to more often. TRT-P cannot discriminate print exposure resulting from being read to from that attributable to the child's reading. This helps interpret why the TRT-P does not exhibit statistically significant correlations with reading achievement measures.

Additionally, TRT-P scores would be influenced by home literacy activity. One school in our study was a university-affiliated laboratory school where it may be reasonably assumed parents have a higher than average interest in their children's education. It is likely these parents are more inclined toward providing home literacy activities which may counteract effects revealed by the TRT-P in other samples.

Further examinations of the instrument are warranted and are currently underway, particularly in relation to socioeconomic status and developmental differences. Data are currently being collected for a systematic replication of the Cunningham and Stanovich (1991) study (which focused on fourth through sixth grades) with first, second, and third graders. Recognizing the need to establish the concurrent validity of the TRT-P, an additional measure of print exposure, the reading diary (Greaney, 1980, Greaney & Hegarty, 1987) is also being used.

Additional correlation and regression analyses split by sex and split by ethnicity were unable to be reported here due to space limitations; however, results similar to those of the combined data were revealed. Future research should, however, continue to examine results with respect to these variables. Furthermore, this study suggests the importance of age as a factor in the application of title recognition tests as an index of experience with print. We recognize that, particularly with young children, correct identification of a book title may reflect the child's having heard the story rather than actually reading it himself or herself. Thus, other factors, such as number of books in the home, parental value of literacy experiences, and cultural and linguistic influences are likely to play a significant role in youngsters' performance on title recognition tests, particularly for primary students.

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PORTFOLIOS: AGENTS OF CHANGE AND EMPOWERMENT IN CLASSROOMS

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This paper presents a study that explored the process and outcomes of portfolio implementation in K–4 classrooms. Specifically, the paper explicates the effects portfolios had upon teachers' instruction, assessment, and relationships with colleagues and parents.

Critical theory as empowerment of individual teachers underpinned this study (Goodman, Shannon, Freeman, & Murphy, 1988). Teachers have been characterized as technicians devoid of the decision-making power that other professionals possess (Apple, 1982; Goodman et al., 1988; Shannon, 1987). Standardized testing and adherence to the scope and sequence of basal readers exacerbate this situation when teachers believe they have lost responsibility for instructional and assessment decisions. Consequently, teachers are disempowered in the workplace since they are removed from the decision-making process.

When portfolios are situated and contextualized in teachers' classrooms, they may become agents whereby teachers are given significant stakes in the decision-making process. Thus, portfolios may alter power relationships within schools and classrooms by empowering teachers to make instructional and assessment decisions that heretofore were dictated by external forces such as standardized tests and basal manuals. This report explicates the role of portfolios in the transfer of power and the instructional and curricular consequences in one school.

PARTICIPANTS AND METHODS

A case study of an elementary school was conducted over three contiguous academic semesters. The school was located in a small town in the West, had three classrooms per grade level (K–6), and approximately 450 students. Although the school served a wide range of socioeconomic levels, the student body fell predominantly in the lower regions of the spectrum found in the community.

Two university researchers offered a series of after-school seminars in portfolio assessment at the school. One researcher was the instructor for the seminars whereas the other became a participant observer. The seminars were each listed for two graduate credit hours.

Regular classroom (K-4), special education, and Chapter I teachers participated in the seminars. Out of a teaching staff of approximately 23 at the school, attendance at the seminars averaged 12 participants each semester. A core of teachers participated in all three seminars whereas others chose to attend one or two of the seminars. The building principal also attended as did a Chapter 1 aide. Of the teachers who participated, some employed literature-based instruction whereas others used varying amounts of literature with basals (Scharer, 1992).

Weekly after-school meetings and noon sessions were held. During these, a variety of literacy questions were explored such as: (a) What is reading comprehension? (b) How do we assess reading comprehension? (c) What reading comprehension indicators do we look for? and (d) What should go in a literacy portfolio? Discussions led to a variety of assessments being suggested including think alouds, running records, retellings, interest inventories, and writing. Subsequently, participating teachers tried these assessments in their classrooms and then reported during meetings on outcomes and insights gained.

DATA SOURCES, ANALYSIS, AND RESULTS

Data included audio tapes of class sessions and noon meetings, field notes written by the participant observer, concept maps constructed by participants, focused writings completed by participants, informal and formal interviews, artifacts, and theoretical memos written by the researchers. Data were analyzed using constant comparison (Glaser & Strauss, 1978; Strauss & Corbin, 1990). In constant comparative analysis, data are analyzed as they are collected. Thus, data collection and analysis become an iterative process whereby initial analyses inform subsequent collection and vice versa. These iterations produce categories and properties inductively derived from the data which explicate the findings. Categories represent themes running through the data. Properties support and add depth to the categories, providing the rich base of detail that underpins the realism of the categories. In this report, four categories with attendant properties will be displayed in a subsequent section.

Issues of reliability and validity of data analysis and interpretation were addressed through parallel processing of incoming data and member checking. Parallel processing refers to the two researchers reviewing data independently and then sharing findings to arrive at negotiated interpretations. For example, theoretical memos passed between the two researchers became vehicles to document formative interpretations and initiate discussion. Member checks were conducted in several ways. For example, some of the participating teachers presented aspects of the portfolio project at local, state, and national conferences. The university researchers coordinated these presentations and used the proposal-writing process and preparation for the conferences as forums for member checking. Also, interviews with individuals and small groups were conducted to check interpretations.

Briefly, we found that some teachers were ready to implement portfolios and others were not. For those teachers ready for implementation, changes in curriculum, pedagogy, philosophy, and professional communication accrued as a consequence. For those teachers not ready to integrate portfolios into their teaching, fewer changes were evident. Following is a display of the categories and properties which explicates in greater detail these findings.

Category 1: Literacy Portfolios Are Not for Everyone!

Explanation. During meetings, teachers naturally grouped themselves by the degree of readiness they felt for the transition to portfolio assessment. Distinct groups of teachers coalesced for small-group sharing during meeting time and for collaborative work outside of meetings. Meetings were held in classrooms in the school where the participants taught. Since much meeting time was spent in small-group sharing and planning, participants moved chairs and desks into self-selected groups. Seating charts of class activities and interviews with participating teachers revealed the grouping patterns. This category and its properties delineate the nature and consequences of these groupings.

Property 1: Natural readiness grouping by participating teachers. Teachers grouped themselves into four identifiable units. These units manifested a wide range in readiness for portfolio assessment. Group 1 was composed of teachers using literature-based instruction and having experience with portfolio assessment. This group included a second-grade teacher, a third-grade teacher, a Chapter 1 teacher, and her aide. Group 2 was composed of teachers who were in the midst of the transition from strict basal adherence to literature-based/whole-language instruction. This was an eclectic group of teachers representing kindergarten through Grade 3 and special education. They were the most receptive to change and thus ready to make the transition to portfolio assessment. This group averaged 5 to 6 members. Group 3 was composed of teachers reluctant to incorporate portfolio assessment in their classrooms. They were mostly from the higher elementary grades represented. There were 2 to 3 teachers in this group. Teachers in Group 4 were those who chose not to participate in the seminars. They were primarily fifth- and sixth-grade teachers.

Property 2: Effects on instruction and assessment practice. Effects on instruction and assessment were most pronounced in Group 2 teachers. Their voice was and continues to be figural within the context of this study. For the most part, the remaining categories and properties articulate the experiences of Group 2 teachers; however, these teachers' experience could not be so clearly delineated without the other groups as backdrops for comparison.

Category 2: Interaction between Instruction and Assessment

Explanation. Teachers had several realizations. First, they realized the weakness in their existing assessment programs. Second, they realized that their existing assessment was divorced from their instruction. Finally, they realized the need for a synergistic interaction between their instruction and assessment practices. This category and its properties delineate the teachers' realization that instruction and assessment are integrally connected.

Property 1: Show me!! Teachers started the seminars wanting the university researcher to show them what to do and how to do it. They wanted to be passive receivers and, as one participant said, have the portfolio process "basalized." But as a consequence of discussions, with some healthy argument that was centered on the questions outlined above, the teachers saw that the diversity of philosophies and instructional approaches represented across participants would not allow the instructor to prescribe what was to be done. They realized that they had to try a variety of assessment processes in their classrooms and make their own determinations and choices.

Property 2: Salient assessment experiences. Teachers' initial experiences with the assessment processes listed above proved to be enlightening, especially their work with think alouds. By working with these strategies in their classrooms, the teachers realized the power of these assessments to provide detailed insight into their students' reading processes. These insights led to changes in instruction. They were beginning to build the bridge between assessment and instruction.

It was during the discussions of the assessments that differences between teachers became most pronounced. Group 2 teachers were surprised at the information and insights they gleaned from the assessments. Group 1 teachers listened to these revelations and nodded knowingly, occasionally interjecting comments and suggestions. Group 3 teachers, however, thought that many of the assessments were ineffective and unnecessary. They especially thought this of think alouds, because they failed to see that the procedure emphasized process and not product.

Property 3: Digging in!! As a consequence of discussing and interpreting assessment data, Group 2 teachers started questioning their former instructional and assessment practices and beliefs. This stimulated a pursuit for knowledge. They requested additional readings from articles and textbooks and began taking greater control over the conduct of the seminars. As one teacher put it: "We saw ourselves with shovels digging in." They began to openly share information about their instruction and assessment. Importantly, they began constructing portfolios and experimenting with contents and formats. This activity culminated in the passing of the portfolios to the next grade level at the end of the school year. Portfolio contents and formats were eclectic, reflecting the diversity in the participating teachers.

Category 3: Enhanced Professionalism

Explanation. Teachers reported enhancements in their professional lives as a result of portfolio implementation. The properties of this category illustrate these enhancements.

Property 1: Teacher-to-teacher communication. Teachers consistently reported improved rapport with colleagues. This occurred within grade levels as a consequence of sharing objectives, assessment, and instructional ideas. It also extended across grade levels due to sharing the above information and portfolios. Most notably, fear was a critical element that initially restricted teachers in their adoption of portfolios. Teachers described having to overcome significant fears of being criticized by their colleagues because portfolios could reveal their teaching practices. These fears were overcome by the establishment of a professional culture where communication and sharing were part of the culture. Teachers reported that the seminars had been a catalyst for the establishment of this culture because they provided a regular and open forum in which to share and discuss ideas. Teachers came to realize they all shared the same fears, concerns, and problems.

Property 2: Teacher/parent communication. Teachers reported having greater accountability to parents and increased parent contact. They felt better prepared and confident at parent conferences and reported an enhanced ability to educate parents about changes in classroom instruction. They incorporated into their instruction and portfolios a variety of parent letters and parent/child activities. Teachers also reported improved ability and confidence in completing grade cards. They said that filling out grade cards was more pleasurable and easier since portfolios kept detailed records of student progress.

Category 4: Issues of Ownership and Transferability Across Grades

Explanation. Portfolios are indeed powerful agents for teacher empowerment, but portfolios within this environment can become teacher-centered in orientation. Thus, the questions of when and how to pass portfolios between the grades and who has ownership of the portfolios become rich with nuance. This category and its properties explore these nuances.

Property 1: Teacher-centered portfolios. The portfolios that evolved in these teachers' classrooms were predominantly teacher-centered and thus owned by the teachers. Those who have worked extensively with portfolios state that they are first for students to empower them to take control and ownership over their learning (Graves & Sunstein, 1992; Murphy & Smith, 1991; Rief, 1992; Tierney, Carter, & Desai, 1991). No doubt this is true, but to get teachers to the point where they can relinquish control of portfolios so they become the students' is a complex and time-consuming process dependent on specific school and curricular contexts. When teachers began building portfolios, they became agents for the teachers to see their students' aptitudes and achievements more clearly. Teachers used varying degrees of student input into the portfolios, but overall the portfolios were for the teachers. Teachers had strong feelings of ownership over the portfolios.

Property 2: Teacher-centered portfolios do not transfer well. Portfolios became a rich medium for teacher and student instructional interaction. Thus, they were highly contextualized within each teacher's classroom milieu and did not transfer well to other classrooms and educational settings without extensive annotation and explanation. Evidence for this came when teachers passed portfolios between the grades at the end of the year. This was initially very exciting for the teachers but then quickly lost its allure. After the first year, teachers were not that interested in receiving portfolios from the grade below them. They were more interested in interacting with their new students and, as an outcome of this interaction, building a portfolio within the context of their particular classroom.

DISCUSSION

The categories and properties demonstrate the empowering effect portfolio assessment had on these teachers. As teachers talked about the portfolio process and how they had changed, they talked of formerly feeling guilty as they filled out the basal check sheet at the end of the year. They really did not know whether an individual child could complete all of the tasks in a variety of settings. This lack of depth of knowledge extended into parent conferences.

Teachers related that in the past all they could show parents were standardized test scores, work sheets, and other basal work. The teachers realized that parents had difficulty understanding much of this information. After their first experience conducting parent conferences using portfolios, teachers reported they knew their students' strengths and weaknesses better. Importantly, they reported a shift in their perspective from looking at what the child could not do to that which the child could do. Teachers were making the transition from a deficit model of instruction and assessment to a model that emphasized growth, achievement, and effort. Teachers reported that they looked forward to parent conferences with renewed interest and confidence since they provided an opportunity to show parents the growth in their child.

Some scholars assert that teachers have lost their decision-making power (Apple, 1982; Shannon, 1987). Garcia and Pearson (1991), within their discussion of authentic assessment of diverse populations, describe what is required to return that power to teachers. Within this discussion they contend that

> the keys to meeting the assessment needs of a diverse student population are a flexible approach to assessment and a dramatically improved teacher knowledge base. We need to grant teachers greater latitude in deciding what is appropriate for a given student in a given group for a given text and a given task; in other words, teachers need the freedom to "situate" or "contextualize" assessment. But the minute we suggest greater freedom of choice, we are confronted with issues of accountability (really responsibility), and the only guarantee against malpractice that we can offer our constituents is greater teacher knowledge (p. 254).

This study illustrates that portfolios meet Garcia and Pearson's (1991) criteria. First, when portfolios are implemented in a manner where teachers gain ownership over their assessment, they provide the flexibility of which Garcia and Pearson speak. They also provide the freedom to contextualize or situate assessment. For example, think alouds became a watershed for the portfolio project. Teachers were surprised at how think alouds opened windows into children's thinking processes. They reported children doing things they did not expect them to be able to do. Children who the teachers considered to be less proficient readers performed better on the think alouds than did some children considered to be more proficient. Based on this knowledge, the teachers adjusted their instruction to better fit the needs of the students.

Second, portfolios improve the teacher knowledge base. The categories and properties illustrate that situated assessment over which teachers have control enhances their knowledge about their students. Teachers gain information beyond test scores, including samples of children's work which show growth over time and the application of knowledge in authentic settings. They can then act on this knowledge to improve instruction and student learning. In several of the participating teachers' cases, portfolios acted as catalysts for them to move further toward literature-based and whole-language instruction to better address the needs of their students. Evidence for this came from self-reports by the teachers that they were able to move away from basal workbooks and do more homogeneous and heterogeneous groupings in their classrooms centered on the reading of literature. They felt confident portfolios reflected student growth in literacy. Thus, skills sheets were no longer necessary for support and documentation.

Third, portfolios ameliorate concerns for accountability. Teachers became more accountable and responsible to colleagues, students, and parents by collecting and interpreting children's work to supplement previous test scores. Teachers gained the knowledge and power to make instructional and assessment decisions, and these decisions and their instructional and curricular consequences moved from being privatized to being public and welcomed. Teachers were no longer isolated technicians implementing someone else's prescriptions while being fearful of revealing their practice to others.

This study illustrates that teachers need to be empowered first so that they take control of their instruction, assessment, and professional learning. Only after empowerment can portfolios become viable entities within the classroom milieu, taking on characteristics that transcend those of work folders. But with this empowerment comes the potential for teacher-centered portfolios to develop with little student ownership. Thus, what the portfolio looks like in its initial renderings may not fit the model of the highly student-centered portfolio discussed in the literature. This may come later, as all stakeholders gain experience and confidence with the newfound power, flexibility, and freedom inherent in portfolios. The issue of ownership becomes "caught-up" in this process and is, most likely, worked out over time. Future research is needed to explore the evolution of ownership. We see evidence that as teachers evolve in the portfolio process they involve students to a greater degree, and the portfolio becomes a showcase for student work that the students might take with them from one grade to the next. The notion, however, that teachers want portfolios from the grade below must be questioned and subsequently contextualized within the particular school and teacher's classroom.

Embedded within these findings is a caution. Cautions are a refrain in the portfolio literature (Graves & Sunstein, 1992; Murphy & Smith, 1991; Rief, 1992; Tierney et al., 1991), and rightfully so since portfolios are rapidly being adopted and dictated at school, district, and state levels. If care is not taken, portfolios will be quickly tried and "as quickly abandoned" (Graves, 1992, p.1). The study reported herein corroborates this point.

As Group 2 teachers constructed the bridge between instruction and assessment, portfolios were a natural outgrowth of student-centered instruction and curricula where process, choice, literature, and writing were common threads across the curriculum. If a classroom is dominated by content delivery by the teacher and content acquisition by the students, then portfolios become an unwelcome intrusion and have little impact on the instructional and assessment environment. They simply become a folder full of work which most of these teachers already used within their classrooms. Consequently, a blanket approach to portfolio implementation is foolhardy at best and could result in negative consequences for students, instruction, teachers, and most importantly, the success of the portfolio process. In short, when implemented by force or fiat, portfolios may become another agent to disempower teachers within their workplaces—just another thing to fill out, fill in, or fill up with little investment and ownership in the task.

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LITERACY AND DIVERSITY: DO WE NEED DICHOTOMIES OR NOT?

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> Interior Minister of Lilliput: But you're a Giant! A monster sent by our enemies to destroy us!
> Gulliver: I'm not your enemy; I'm just different. . . .
> Minister: Different! That makes you an enemy!
> Gulliver: No, I'm different from you and you are different from me. So you see, we're both the same. That makes us equal.
> (*Three Worlds of Gulliver,* cited in Wilden, 1980, p. xlix)

Methods and purposes of education are a frequent subject of debate among professional and lay members of society. These debates, particularly debates about methods of teaching literacy and language skills, often promulgate polarized positions based on dichotomous categories, for example, subskills versus holistic approaches (Pearson, 1990), direct versus implicit approaches (Delpit, 1988) and process versus product approaches (Graves, 1983; Hawisher, 1990; Ronald & Roskelly, 1990).

Delpit's (1988) argument that "process" approaches to literacy education foster the oppression of nonmainstream students highlights the dangers of dichotomous thinking. Delpit uses a number of dichotomies to bolster her argument: process versus product approaches, implicit versus direct instruction, mainstream versus nonmainstream students, and the culture of power versus the culture of the oppressed. Although Delpit raises important issues regarding equity and education, we are uneasy with her dichotomies on two counts. First, is she fair in using different dichotomies interchangeably? Is "a process approach to learning" synonymous with "implicit" or "indirect" instruction? Second, is the use of such dichotomies not in itself misleading? Is every person definitively in or out of the "culture of power"? Are all members of that culture members equally? Are all nonmembers nonmembers equally?

In this theoretical paper, we focus on issues of literacy and language learning among diverse populations of students, exploring the current use of dichotomous theoretical frameworks, and suggesting ways to transcend the dichotomies that may stifle progress in theory, research, and practice. Finally, we hope to encourage dialogue about the effect of dichotomous thinking on progress in the education of diverse populations.

DEFINING DICHOTOMIES

Making dichotomies is a process of binary or oppositional naming. Like all naming, it has its values and dangers. In "Fumes the Memorious" (1964), Jorge Luis

Borges describes a man with a prodigious memory who has trouble understanding why a dog seen from the front at 3 o'clock should have the same name as a dog seen from the side at 6 o'clock. Names, and dichotomies, are convenient generalizations which make communication possible.

However, when dichotomies (or any names) become oppositional, they run the risk of becoming "killer dichotomies" (Berthoff, 1990), which create warring camps of opponents who berate each other in different languages. In literacy research and practice, the history of "great debates" has been a history of opposition: oral and silent reading, whole word and phonics methods, and most recently, between whole language and subskills approaches (Chall & Goodman, 1992). Literacy theorists and policy-makers have traditionally used dichotomous definitions to distinguish literate from illiterate adults, young nonreaders from readers, and normal from learning-disabled students. In bilingual and bidialectic education, debates abound between "English-only" and "English-plus" perspectives (McGroarty, 1992), and between approaches which stress standard English and those which accommodate to nonstandard English speakers (Labov, 1969). In classrooms at all levels, oppositions are set up between teacher and student roles, right and wrong answers, passing and failing, competence and incompetence. Finally, student populations have been categorized using dichotomies according to cultural, ethnic, and socioeconomic factors (majority and minority, white and nonwhite, advantaged and disadvantaged, mainstream and nonmainstream), and ability and competency levels (gifted and regular, disabled and regular, developmental and remedial students).

THE CONSEQUENCES OF DICHOTOMIES

Dichotomous depictions of literacy, language, and culture are popular and well institutionalized. However, the use of such dichotomies fosters a limited view of "reality," leads to repression of individual and community expression and needs, promotes cultural bias, creates exclusive discourse that stifles dialogue, and prohibits critical analysis. These limitations combine to hinder progress in the education of diverse groups in our society.

First, the dichotomies represented by these depictions are false. Dichotomies do not exist in "reality" or in nature (Berthoff, 1990). Rather, dichotomous thinking is part of the epistemological underpinnings of Western culture (Wilden, 1980), codified in Aristotle's Laws of Contradiction and the Excluded Middle (Wolf, 1981), Descartes' mind/body dualisms, and the structuralism of Levi-Strauss and de Saussure. Dichotomies can mask differences that exist within groups. For example, it is unlikely that all teachers who profess to use "holistic" methods do so in the same manner (Cohen, 1992). Nor is it wise to assume that all members of a culture, mainstream or nonmainstream, share similar goals and beliefs (Ellsworth, 1989). Such depictions assume an underlying conformity which represses individual freedom and humanization as people are pressured to identify with one group or another (Freire, 1990).

Furthermore, these dichotomies, particularly cultural dichotomies, represent a biased belief that some groups are deprived in their language (Bernstein, 1970), their ability to be literate, and their capacity for abstract thinking (Olson, 1977; Ong, 1982).

Dichotomous views of cultural groups can result in perceptions of one group's culture as more valuable than another for the development of literacy (e.g., Hirsch, 1980). Cultural customs are often interpreted negatively and viewed as deprivations because they are measured against one cultural norm (Scollon, 1988). Terms such as minority, disadvantaged, and handicapped imply a difference that deprives children of equal status in both school and society. Literacy programs established to minimize differences in children's abilities, such as Head Start and Chapter One, often operate from a deficit or deprivation view (Pellegrini, 1991; Rose, 1988). As long as the dichotomous "mainstream/nonmainstream" view exists, differences will be approached as deficits (Hull, Rose, Fraser, & Castellano, 1991).

Dichotomous approaches to literacy, language, and culture also discourage an open dialogue about issues of diversity. Instead, these polarized views shape exclusive communities that legitimize and affirm the knowledge and ideology of group members (Swearingen, 1990) and silence the voices of others (Delpit, 1986, 1988; Elbow, 1986; Ellsworth, 1989). In addition, dichotomies encourage jargon-laden discourse that stifles meaningful conversation as slogans and catch-words are tossed about in defense of a group's purpose (Liston & Zeichner, 1987). Finally, clinging to dichotomies can hamper critical analysis of one's own ideas and of new ideas (Berthoff, 1990; Elbow, 1986). Because people often define themselves by what they are not, the dual entities of dichotomy depend on each other for life and allow one group to have power over another and to become the "bearers of truth" (Hawisher, 1990, p. 16).

Ultimately, holding fast to dichotomies can become "a way of trying to hold the world still" (Zebroski, 1990, p. 178) and of stifling progress. Individuals and groups maintain power through the use of dichotomies, and those who cannot fit themselves into one side or another are left out (Ritchie, 1990).

Unfortunately, "killer dichotomies" continue to dominate debates in literacy research and education. In order to move beyond dichotomies, Gail Hawisher suggests:

> reform [in English education] must demonstrate a balanced perspective, a perspective that seeks not only to unite binary opposition into productive syntheses but also seeks to preserve the rich diversity of knowledge among us. (Hawisher, 1990, p. 16)

Although Hawisher's advice referred specifically to English education, her words have implications for the teaching of literacy, particularly in a time when we strive to serve the needs of our diverse students.

TRANSCENDING DICHOTOMIES

Constructing New Visions

Because of the divisive effects of dichotomous thinking, it is important that educators develop alternative ways of dealing with issues of literacy, language, and culture. To accomplish this, we must construct new visions of literacy teaching and learning, and then develop teaching methods that allow us to enact these visions. Three possibilities for transforming dichotomies, and examples of their applications to issues of language, literacy, and culture, are outlined below.

Continuum. A continuum is one model which mitigates the opposition created by dichotomies. For example, orality and literacy, usually viewed as a dichotomy (Olson, 1977; Ong, 1982), can be viewed instead as a continuum. Using a pragmatic analysis, Lakoff (1981) lays out speech and literacy events along a continuum between poles formed by informal spoken conversation and the formal written essay. On this continuum, a personal letter, although written, is more "oral" in style than a spoken lecture. A continuous view of orality and literacy can reveal the complexity of the relations between the two. It can also become the basis for a language and literacy curriculum (e.g., Moffett, 1968).

A second example of a continuum is the concept of emergent literacy, which has superceded the reading readiness paradigm that assumes a dichotomy between young "nonreaders" and "readers." From the emergent literacy perspective, young children can have many reading and writing skills and can act like readers and writers before they understand the alphabetic code. Although emergent literacy helps to remove dichotomies, there is a danger that it fails to avoid the dichotomy by defining itself in contrast to "conventional" literacy. In order to be more truly continuous, literacy can be viewed as constantly emerging in individuals and in groups. For example, new literacy technologies require the emergence of new knowledge and skills in literates of all ages.

Finally, in learning theory, Vygotsky's model of learning is based on a continuum. Dissatisfied with the opposition between measured competency and incompetency, Vygotsky (1978) developed the concept of the zone of proximal development, which redefines learning as a continuum of performance scaffolded by collaboration with adults.

Pluralism. A second approach is to emphasize pluralism in the place of dichotomies. Sulzby (1992) talks about "multiple literacies" in accounting for the range of literacy practices in the modern world. Literacy researchers have documented the multiplicity of literacy practices across social groups, challenging the unity of literacy and the dichotomy between literate and illiterate (Heath, 1983; Scribner & Cole, 1981). This research suggests that we must be ever more particular rather than general in our characterizations of language and literacy practices.

In language and literacy research, deficit models of home language and culture, which dominated theory in the past, have been replaced with difference models (Labov, 1969; Scott, 1992), although deficit models continue to drive many educational practices. However, difference models of language and culture, like the concept of emergent literacy, can continue to promote dichotomies when "differences" continue to be measured against a single "standard" language or culture.

Redefinition. A third way to overcome dichotomies is to reformulate the problem. For example, Dyson (1988) challenges the view which equates literacy with decontextualized language, asserting that through literacy we recontextualize language in new settings. The theory of multiple intelligences (Gardner, 1983) has redefined the traditional unidimensional conception of intelligence, and miscue analysis (Goodman, 1976) has redefined our view of errors, going beyond computing reading accuracy to ask what errors reveal about the reading process. And following the lead of miscue analysis, emergent literacy researchers looking at children's responses to environmental print went beyond accuracy rate to examine the quality of wrong answers (Harste, Woodward, & Burke, 1984). Finally, we can redefine the roles of teacher and student. For example, Graves (1983) urges writing teachers to write along with their students, to voice their own struggles with writing, thereby becoming students and allowing children, through their writing, to teach what they know.

Enacting Visions of Literacy

New visions of literacy, then, involve transcending the dichotomies which limit our thoughts and actions. We need to develop strategies for theorizing, researching, and teaching which allow us to enact the new visions of literacy that we construct. In order to enact new visions of literacy, dialogue among groups of educators is essential (Delpit, 1988; Shannon, 1990). Delpit claims that "progressive education movements" (1986) or "liberals" (1988) have silenced dialogue by refusing to listen to the views on nonmainstream educators and parents. Weiler (1991) and Ellsworth (1989) echo this concern by suggesting that movements toward critical pedagogy deny diversity and silence voices that do not sound forth similar critical goals. Through dialogue, we can critically examine the purposes and effects of promoting one method, language, or cultural group over another. However, in the attempt to look critically, we must be wary of creating new dichotomies. We need to be careful to avoid assuming that others do not understand our arguments because they do not agree with them.

One method of promoting dialogue and multiple perspectives is that of ethnography, a method of inquiry that seeks to uncover the particulars of cultural experience and the perspectives of participants. Ethnographic research shows the multiple facets of literacy and culture (Heath, 1983; Scribner & Cole, 1981; Taylor, 1983). Zebroski (1990) suggests that we incorporate ethnography into our courses by collaborating with students to redraw existing boundaries between teacher and student. As a composition teacher, Zebroski has his students practice ethnographic writing as a means of studying the lives and personal perspectives of groups of people. He argues that this approach allows students to see the world in new ways, to realize the power and limits of language in describing experience, to learn unique communication strategies, and to move beyond the role of student to that of "researcher" and "teacher." At the heart of this pedagogical use of ethnography is dialogue—between students and informants, between students and students, and between students and teachers.

Another method of working profitably with dichotomies is that of using dialectic processes of "methodological doubt" and "methodological belief" (Elbow, 1986). Building on the idea that "contraries" (i.e., dichotomous views) can be used profitably, Elbow claims that suspending disbelief and entering into another's way of thinking, even temporarily, forces us to analyze our own ideas more carefully. He does not propose naive belief at the expense of critical analysis. Instead, he suggests that the two processes, belief and doubt, be used to expose, experience, and examine the issues we need to confront in our theorizing and teaching.

Theorists, researchers, and practitioners need to develop a better awareness of the oppressive nature of dichotomies in our field and work to use dichotomies *profitably*, by moving beyond them. Our dialogue must focus on coming to know and understand the perspectives of others through frequent interaction with others. We must be cautious not to reestablish old dichotomies with new names. Finally, we need to construct a new vision of literacy teaching and learning, one that values multiple perspectives and approaches.

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RESEARCHING LITERACY AND INSTRUCTION BY EXPLORING DIRECT EXPERIENCE

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Several years ago, I joined a literacy response group with three NRC regulars, Barb Kapinus, Marty Ruddell, and Judy Mitchell. We began to explore our personal experience of literacy by (a) *reading* together the book, *Women's Ways of Knowing* (Belensky, Clinchy, Goldberger, & Tarule, 1986); (b) *writing* to express our experience of this literacy event; (c) *dialoging* in writing and in oral discussion about our common and variant experiences; (d) *refining* our responses to our experience of this literacy event over time; and (e) finally, as time went by, we looked back at our logs and discussions and worked at *interpreting* our experiences.

I was delighted with the personal experience of reading and writing with three highly literate, imaginative women, but did not see any of this as research, and was rather embarrassed by the idea of presenting our work at NRC. Since then, I have changed my mind.

It is almost a truism to say that we learn most of what we know through personal experience. For example, if we want to understand a human endeavor, such as how to play tennis, there are essentially three ways of doing this. We can set up empirical experiments and discover regularities and laws governing balls, playing surfaces, and nets. We can observe tennis players as they play tennis, and perhaps ask them about it. Or, we can experience how tennis is played for ourselves by taking up a racket and spending hundreds of hours improving our game. Books on how to play tennis are almost always written by people who play a lot of tennis because it is the only way to really know how to play the game.

A mental process, such as reading, is even more difficult to understand objectively since much of what is happening when a person reads is not available to anyone but the person himself. Most of us acknowledge that the thousands of hours we have lived as literate people have taught us much of what we understand about literacy. Even our observations of other people as they are reading or writing are undoubtedly being interpreted in terms of our own experiences. However, since literacy researchers have been reading and writing a long time, the influence of these experiences on our thinking is likely to go unnoticed. Lived experience is too often the unacknowledged informant in our research.

Even if we were to continue largely ignoring the way in which our own direct experience of literacy and literacy instruction is informing our interpretation of "objective" data, we are forced to consider experience when we attempt to apply the findings of a study to an actual situation. According to Popper (1944), the scientific method can, at best, produce piecemeal social engineering, since each social event differs from others in important ways. Ogawa and Malen (1991) suggest that reviews of research can best be related to practice if accompanied by reports of how the methods actually work in the reader's practice. Cronbach (1982) uses the term, "external validity" to describe the degree to which practitioners can apply the findings from one classroom setting to another by filling in the gaps based on the practitioner's knowledge and experience.

If literacy and educational research is to be of use, it must come from experience and feed back into experience. James (1907) said ideas "become true just as far as they help us get into satisfactory relations with other parts of our experience." This attitude toward the usefulness of ideas seems to be expressed by teachers when giving their reasons for teaching reading the way that they do. Richardson (1990) reports that interviewed teachers rarely gave what literacy researchers would consider as theoretical or research-based reasons for their practice.

It is a curious thing when researchers attempt to divorce themselves from their own experience when conducting research. The results may be that researchers tend not to take the findings of their own research seriously in their own practice. Educational researchers, in interviews reported by Eisner (1984), found the question concerning whether they use the results of their research in their own teaching to be odd. None of these professors could describe how their findings informed their own teaching practice.

The academic community usually does not reward the literacy researcher for actually working with students who are learning to read and write. Yet, we hope that our research will inform and guide the teachers who are involved in teaching literacy. Is this not a little like writing books of advice about playing tennis without actually working on getting better at playing the game? Is it possible that much of the really bad research that exists comes from people who design studies from an experiential vacuum?

HERMENEUTIC PHENOMENOLOGICAL RESEARCH

The term "hermeneutic phenomenological research" is the term van Manen (1990) uses to describe the study of personal experience. Phenomenology refers to the study of events as they appear in our lived experience. Hermeneutics is the theory and practice of interpretation. Therefore, this type of research seeks to give as true a description of some aspect of our lived experience as possible, and to interpret this experience in ways that produce insight.

A useful metaphor for hermeneutic phenomenological research is that of a reader interpreting a text. Since reading is a constructive process, interpretations can be refined by rereading the text and reinterpreting it, writing and revising to clarify meanings, and dialoging with others who have also read the text. Justifications for the views expressed must be based on the text itself, and on reasoning processes that tie interpretations to the text. Lived experience is the "text" for hermeneutical phenomenology. The same constructive process of revisiting, writing, revising, and dialoging helps us to refine our interpretations of our experiences, as well. Justification of any interpretation must be based on the details of our lives, and on reasoning processes that tie our interpretations to our experience.

If successful, this process makes our experiences explicit to others and provides interpretations that can be publicly shared. A research project of this kind might ask the following questions: (a) What is the object of the human experience to be studied? (b) How can I narrow the range of experiential situations so that my study is well defined and focused? (c) Is this an experience that is common to all of the people involved in the research project, and therefore potentially meaningful? (d) Which mode of expression produces the clearest descriptions and the most successful understanding of my lived experience? (e) What other sources might help me in making my life experience explicit (novels, plays, art, music, poetry)? (f) What kind of dialogue is most helpful to me in helping me to clarify the meaning of my life experience?

Some examples of work in education that seem to be at least attentive to experiences reported by others might include researchers who study teachers' thinking (Kagan, 1990; Hollingsworth, 1989), self-reports of reading processes (Garner, 1982), of reader responses (Garrison & Hynds, 1991), and of writing processes (Graves, 1991), as well as student perceptions of their educational experience (Farrell, Peguero, Lindsey, & White, 1988).

However, these examples do not start with the researcher reporting and interpreting his or her own experience of literacy, teaching, or learning. Why do we not systematically consider what we know about literacy and literacy education from our direct experiences of these activities? One reason may be that inquiry that involves our own experience is not part of our research tradition. Second, studying our own experience is an ambiguous and unrecognized task. In the scramble to be published, it seems a rather improbable way to proceed. Further, studying our own experience is available to everyone. Therefore, we may feel we are relinquishing our "expert" status by acknowledging experience as a source of knowledge. Also, studying our personal experience is hard work. It is more than a mental exercise for it involves looking at ourselves (Hunt, 1989).

The main reason we do not systematically explore our direct experience of literacy and teaching may be that we are not sure how to proceed. We have no clear descriptions of what would constitute a "good" study. We lack an understanding of the rules of evidence for hermeneutic phenomenology. Below, we consider rules of evidence for experimental and qualitative research and discuss some tentative possibilities for more systematically interpreting our own experiences as well.

Rules of Evidence for Interpreting our own Experience

According to Shannon (1989), 97% of articles published in the *Reading Research Quarterly*, and 99% of the articles published in the *Journal of Reading Behavior*, prior to 1989, followed the experimental or quantitative research paradigm. Much of our graduate careers have focused on clarifying the rules of evidence for experimental research. Campbell and Stanley (1963) is still the manual of choice. Literacy and literacy instruction is explained in terms of correlation or causal relationships between well-defined variables. Measures are established and sample populations are identified that allow one to assume that the trends found in the data will be generally true for the target population as well.

More recently, qualitative researchers have sought to explain literacy and literacy instruction in terms of their observations of these activities in settings where they typically occur. Qualitative research does not seek to infer generalizations about relationships between specified variables from quantitative trends in the sample populations to larger groups. Rather, the object of qualitative research is to validly describe and interpret what is observed in ways that can be clearly communicated to others, and that provide some insight into the phenomena of interest. Findings are often considered to be context-specific and rich descriptions of the situations within which the objects of study are embedded are usually included. Rules of evidence concerning valid observations and interpretations include triangulation, interrater reliability, revisitation of the question, and low-inference descriptors (Glesne & Peshkin, 1992; Polkinghorne, 1988; Smith, 1989).

Personal experience seems, on the face of it, to be outside of most definitions of research. How can rules of evidence be established? Our experience is not externally observable and cannot be publicly verified. Further, direct experience is subjective and prone to bias. The state of our bodies and the feelings we have affect our experience of any phenomena. We are also affected by unconscious motivations, perspectives, and values.

However, subjectivity bias cannot be avoided by empirical researchers either. Literacy researchers face the dilemma of all scholars of psychological phenomenon. We are researching something that we also experience (Hunt, 1989). Every aspect of an experimental study is affected by our own subjectivity. The questions we raise, the variables we name, the instruments we count, the activities we describe as operational definitions, and the ends we have in mind all come out of our experiences. Even the language we use is biased. For example, the term "disability" implies a lack of ability on the part of the child, exposing our bias against blaming ourselves as teachers. Although our language limit our ways of thinking, it can also provide clues as to our biases and assumptions. For example, when we call a variable a "stimulus," we demonstrate a bias to think of humans as beings that respond (Eisner, 1988).

Although totally freeing ourselves from bias is undoubtedly impossible for all researchers, the effort to do so is especially important for researching lived experience. We cannot rely on interrater reliability to be sure that our observations are accurate because the events that constitute our lived experience are not publicly available. When we observe our own lives, we do so alone. We are dependent only on ourselves to judge whether our representation of this experience is true.

Therefore, the major characteristic necessary for a rigorous interpretation of lived experience is the same as that for all modes of research, the ability to be self-critical. Mechanisms must be in place that force us to not accept the easy or familiar interpretation, but to constantly refine not only our views, but our modes of questioning, our perspectives, our focus. Peshkin (1988) provides an excellent example of a researcher in search of his own subjectivity. He describes how the way he experiences his ethnicity, his beliefs about community, his preferred pedagogy, and his sense of justice affected his research.

What can we do to increase the chances that our interpretation of our experiences are valid? First, van Manen (1990) suggests that we refrain from interpretation as much as possible, until we have taken the time necessary to accurately describe our experiences. We can attempt to use low-inference descriptors in order to report on these internal events. Van Manen (1990) also suggests writing and rewriting until we are sure that we have accurately represented our experience as it was lived.

If a clear description of our experiences precedes interpretation, we can also make our line of reasoning from the events to the interpretation explicit to others. Further, interpretations of lived experience may be more carefully made by using the methodology of observational researchers. A form of triangulation might be achieved by revisiting the experience on videotape, or being involved in the same kinds of experiences from a different focus or perspective. Collaboration with others involved in interpreting their own experience of the same kind of event may help us add clarity to our findings. Sharing our written interpretations with others provides us with an audience to help us to clearly communicate our experiences and to make them public. Listening to others relate similar experiences provides us with alternate perspectives that may help us refine our own.

However, these methods should be considered as alternatives rather than rules. Much of our experience of literacy and teaching cannot be described in words. Eisner (1989) points out that propositional language may "divert our attention from qualities of direct experience" (p. 17). Alternate interpretative modes, such as poetry, art, cinematography, or music, may help us to grasp elements of direct experience that more discursive forms cannot. Keeping our attention on the primacy of experience, our challenge is to invent modes of representation that those most involved in teaching literacy will find both meaningful and useful.

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SINGLE-SUBJECT EXPERIMENTAL RESEARCH: RATIONALE, TENETS, AND BASIC DESIGNS

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In the 1991 edition of *The Handbook of Reading Research,* Jim Hoffman stated that "Single-subject experimental studies . . . are alternatives that are seldom used but potentially powerful in their capacity to inform field-based research" (p. 945). Other literacy educators are beginning to echo these sentiments.

Use of single-subject experimental methodology began in medical and clinical psychology investigations in the 1950s and was quickly adopted by researchers in the field of applied behavior analysis. In recent years there has been an upsurge of single-subject studies in a wide variety of disciplines, including social work, psychiatry, special education, pharmacology, therapeutic recreation, communication disorders, and physical education, as well as in developmental, educational, and counseling psychology—but there are only a limited number of published studies in the literacy field.

The purpose of this article is to provide introductory information about single-subject experimental research for those literacy researchers having limited background in this area. An overview of general characteristics and basic designs associated with single-subject experiments is presented.

DEFINITION

First, what *is* single-subject experimental research? This is research that has as its purpose "to unambiguously evaluate the effects of an independent variable on the behavior of a single individual" (Sulzer-Azaroff & Mayer, 1977, p. 525).

However, despite this purpose, and despite the name given to this methodology, at times single-subject research involves more than one individual—in fact, although an *n* of 1 *is* acceptable, more often than not these experiments included several subjects. The phrase "*single*-subject" refers not so much to the number of subjects, but to the way data are analyzed. That is, each subject's responses are examined individually; they are not averaged with other members of an experimental or control group.

GENERAL CHARACTERISTICS

There are several general characteristics that are important in single-subject experimental research. In comparing these with characteristics of case study and other qualitative research, and with quantitative methods, similarities are seen but also there are differences. For example, single-subject research is similar to some qualitative studies in that data are examined in depth for only one or a few subjects but differs from this research because procedures in single-subject experimental methodology allow demonstrations of experimental control that permit statements of cause and effect. In the latter way single-subject experimental studies are similar to much traditional quantitative research. However, they also differ from quantitative studies in several procedural aspects, for example, in these small-*n* experiments, control is established in ways other than through control groups or randomization procedures, and often—though not always—no statistical analysis is employed.

As indicated, one important characteristic of single-subject experimental research is *individual data analysis.* Individual differences can be obscured when data are averaged across a group and reported as group mean performance. Individual data analysis is undertaken in this methodology because it is believed that understanding human variability is important to the solution of specific problems, as well as to the advancement of knowledge. Instead of attempting to control for variability through randomization and statistical procedures, the purpose of single-subject design strategy is to uncover and examine variability.

A second characteristic is the *direct manipulation of independent variables.* In other words, this is not research in which observations of existing conditions, only, are reported, nor in which inferences are formulated ex post facto.

Third, *interventions are planned and monitored.* Interventions are precisely structured before data collection begins, but further, it is standard procedure to systematically check the consistency with which the intervention is implemented to ensure that it is conducted as planned, throughout the study. Based on frequent monitoring, data on the integrity of the independent variable, along with reliability coefficients for the dependent variable, are included in research reports.

Fourth, *baseline data collection* is undertaken prior to intervention, for each individual, to provide a basis for later comparisons of responses in the absence of the intervention versus the presence. In this way each subject can serve as his/her own control. Baseline data collection requires several sessions and is not merely a single pretest.

Fifth, once intervention begins, there is *manipulation of only one independent variable at a time.* This is to provide assurance that *this* independent variable *is* implicated in any changes of responses that occur. Even in those studies examining multiple independent variables within the same experiment, a design is employed that allows for change of a single independent variable at a time, at least initially.

A sixth characteristic is *repeated and frequent measurement of variables.* In single-subject experimental research, providing only pretest and posttest measurement is viewed as insufficient because of day-to-day variability in human behavior. Repeated measurement across baselines and throughout interventions allows the investigator to note fluctuations in responses. After every measurement procedure, data are plotted on graphs that have been prepared for each individual subject.

A seventh characteristic is use of *standardized measurement conditions.* Procedures for measurement of the dependent variable must be specified and consistent across all phases of the study. Independent observers or raters are used to conduct checks frequently throughout the study to ensure reliability of the observations or other data.

Eighth, single-subject research uses procedures that provide *strong controls for internal validity.* Threats to internal validity such as maturation, instability, and differences among subjects prior to an experiment are controlled by (a) use of subjects as their own controls, (b) continuous measurement throughout the experiment, and (c) use of independent observers and raters to assess reliability. A catch phrase of single-subject researchers is that "We use control procedures, not control groups."

A ninth characteristic of single-subject research is the *inclusion of maintenance measures.* Although literacy researchers have been encouraged to include measures to assess maintenance of effects in research contextualized within other experimental paradigms, frequently this is not done. In contrast, it is a rare single-subject experiment that does not assess maintenance of the desired responses after a relatively extended time has elapsed following termination of the study.

Tenth, typically, *generalization of effects is measured.* an example of this, related to literacy research, might be that a researcher employing narrative materials as the major text used in a comprehension intervention, also would measure generalization of effects to expository selections. Although, when examining published reports of single-subject studies, it appears that generalization assessment is conducted less often than maintenance assessment, it also appears to be more typically done within this paradigm than in experiments conducted from other research perspectives.

Eleventh, *external validity is established through replication.* A prickly issue that has surrounded single-subject research, as it has qualitative research, is a controversy about external validity—that is, the question of how generality can be established when the numbers of subjects in these studies are small. The question is asked, "How can we be assured that findings are relevant to other individuals?" The answer is "We can't—without replication." To establish external validity, single-subject researchers undertake replications of the same experiment with other subjects. In regard to this issue, Lipson and Wixson (1986) stated that "many replications of small studies may inform us as well as one large study that attempts to control so many factors that we have little 'ecological validity'" (p. 127).

DESIGNS

All of these procedures are carried out within *designs* that are specific to single-subject research. This article describes certain of the basic ones of these. These designs are among those most frequently used and also provide the basis for other more complex variations.

Reversal Design

One single-subject design type is called a reversal design. There are several variations of this type.

A-B-A design. One is the A-B-A design (Sidman, 1960). On the graph in Figure 1 demonstrating the A-B-A design, the vertical axis indicates the level of response.

Since this hypothetical example refers to Annie's responses to science questions, the numerals might denote number or percentage of answers correct. The horizontal axis of this graph indicate the number of the session in which measurement data were collected. In this example, baseline data collection was conducted for five sessions during which Annie did not use a study guide and her responses were graphed under that condition. In Session 6, the intervention began in which Annie did use a study guide and each day for the next eight sessions data indicating Annie's correct responses under that condition, again, were graphed.

However, the researcher cannot stop here because, technically, any positive changes seen in the desired responses during intervention could have occurred as a maturation effect. Therefore, there is a return to the baseline condition (specified as Baseline 2), because this can provide greater certainty that any positive effects are the result of the intervention, if upon return to baseline the desired effect is no longer seen. For example, Annie's responses to science questions were not impressive when she did not use a study guide, there was a steady increase in correct responses when she did, but when she no longer used the guide her correct responses fell to the preintervention level (see Figure 1).

This example is one of two typical ways reversal designs are used—that is, in Baseline 2 the intervention is withdrawn for a few sessions to test the strength of the intervention—but then, of course, if deemed effective, it is reinstated.

A-B-A-B design. Another reversal design is the A-B-A-B design (Baer, Wolf, & Risley, 1968). The example on the graph in Figure 2 is the second typical way in which a reversal design is employed—that is, to compare two treatments (in this hypothetical case, the number of stories Ramon voluntarily reads per week when he has the opportunity to select these from basal readers versus the number read when he has the opportunity to select from literature books).

The A-B-A-B design is a stronger version of the A-B-A design because there are two possibilities for determining if the effects of an intervention are as strong as they initially appear. Here, for example, it is possible that Ramon's decrease in voluntary reading upon return to Intervention 1 (see Figure 2) may have been the result of simply being tired of doing all that reading, or as the weeks went by and it was later in the school year, perhaps his general motivation for any school work was low. Data collected in the second B condition (see Figure 2) would dispel those alternative explanations and would strengthen the case for Intervention 2—the use of literature.

Alternating Treatments Design

Another design is the alternating treatments design (Barlow & Hayes, 1979), also called a multielement design (Sidman, 1960). This design (see Figure 3) is used to compare two or more interventions (in this hypothetical example, three approaches to increasing students' correct responses to higher-order questions are compared). After baseline data collection, the interventions are applied randomly over subsequent sessions. Random application is used to control for sequence effects. Here, the basal approach used during the baseline period continues to be applied in various sessions, and as can be seen, results for Lynn are not as favorable as when the strategy or question approach are used. On the other hand, the closely overlapping data points for

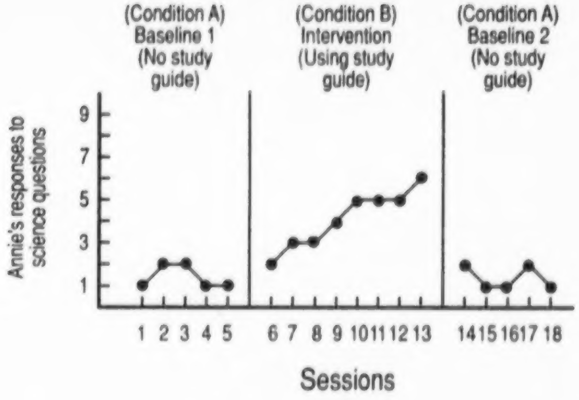

Figure 1. A-B-A design.

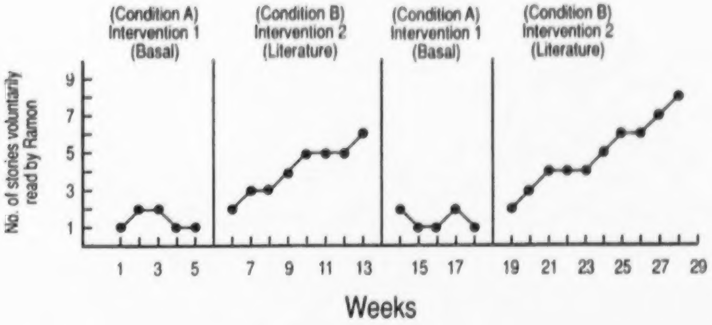

Figure 2. A-B-A-B design.

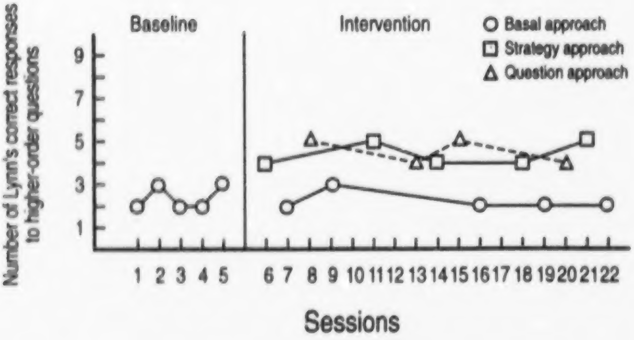

Figure 3. Alternating treatments design.

the strategy and question approaches would indicate no significant differences in the effects of those two treatments.

Multiple-baseline Design

The final design discussed here (see Figure 4) is the multiple-baseline design (Baer, Wolf, & Risley, 1968). Multiple-baseline designs often are used when treatments are not reversible, but for other reasons as well.

With this design, all subjects begin in a baseline condition at the same time, but then, only one subject at a time begins the intervention phase. In the hypothetical example seen in Figure 4, after 5 days of baseline data collection, Tony is exposed to the intervention on Day 6, but Drew and Kate continue in baseline. When the first subject achieves a stable trend in his intervention data, the second subject is exposed to the intervention condition—for example, on Day 12 Drew begins while Kate continues in baseline. Kate begins intervention on Day 17. The logic of this design is that when subjects who have been exposed to the intervention show changed behaviors,

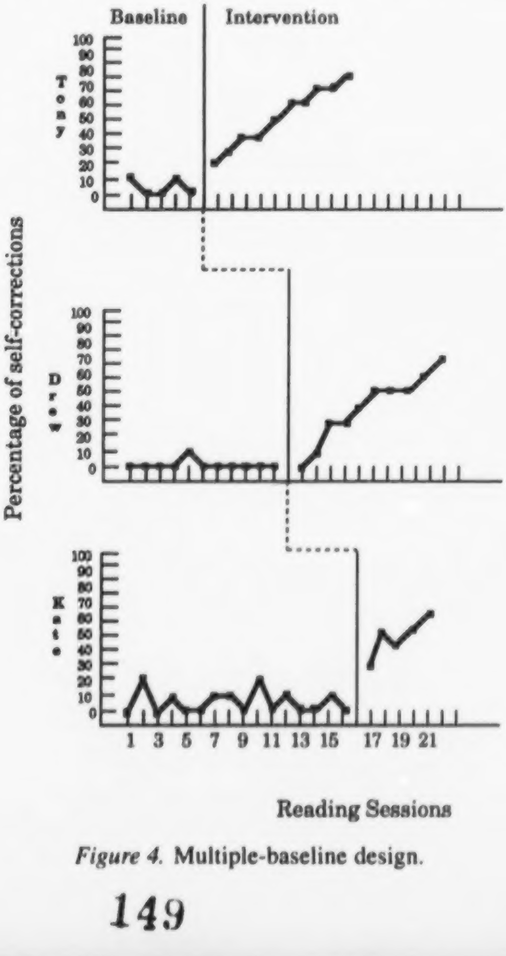

Figure 4. Multiple-baseline design.

and the subjects who have not experienced the intervention do not, the strength of the intervention is indicated. For example, once intervention is instituted for Tony, his self-correction behaviors increase, but Drew's and Kate's (both of whom are still in baseline) do not. When Drew begins intervention, his self-correction increases, but Kate (still in baseline) does not show increases in the desired response. And finally when Kate begins the treatment condition, her behaviors change in the desired direction. The strength of this intervention is thus confirmed.

This is an example of a multiple-baseline across *subjects*—Tony, Drew, and Kate. A multiple-baseline design can also be applied across behaviors, settings, or other variables of interest.

Additional Information

Additional design types may be found in the books listed in Table 1, as well as further direction for implementing single-subject experimental studies. Presently there are relatively few research reports of literacy-related investigations that have employed the single-subject experimental logic. Some published studies that are available for the interested reader's examination are listed in Table 2.

It is hoped that this overview of characteristics and designs will pique the interest of literary researchers previously unfamiliar with this research paradigm so that information will be sought. Familiarity with a variety of investigative perspectives gives researchers greater control for answering research questions they wish to ask.

Table 1

Sources of Information on Single-subject Experimental Research

Barlow, D. H., & Hersen, M. (1984). *Single-case experimental designs: Strategies for studying behavior change* (2nd ed.). New York: Pergamon.

Behling, J. H., & Merves, E. S. (1985). *The practice of clinical research: The single-case methods.* Lanham, MD: University Press of America.

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Kratochwill, T. R., & Levin, J. R. (Eds.). (1992). *Single-case research design and analysis: New directions for psychology and education.* Hillsdale, NJ: Erlbaum.

Tawney, J. W., & Gast, D. L. (1984). *Single subject research in special education.* Columbus, OH: Merrill.

Valsinger, J. (Ed.). (1986). *The individual subject and scientific psychology.* New York: Plenum Press.

Table 2

Some Single-subject Experimental Research with Literacy Themes

Palincsar & Brown	1984	"Reciprocal Teaching of Comprehension-fostering and Comprehension-monitoring Activities"
Mudre & McCormick	1989	"Effects of Meaning-focused Cues on Underachieving Readers' Context Use, Self-correction, and Literal Comprehension"
Rose, McEntire, & Dowdy	1982	"Effects of Two Error-correction Procedures on Oral Reading"
Neuman & Gallagher	In press	"Joining Together in Literacy Learning: Teenage Mothers and Children"
McCormick & Cooper	1991	"Can SQ3R Facilitate Secondary Learning Disabled Students' Literal Comprehension of Expository Text? Three Experiments"
Rose & Sherry	1984	"Relative Effects of Two Previewing Procedures on LD Adolescents' Oral Reading Performance"
Johnston & Afflerbach	1983	"Measuring Teacher and Student Change in a Remedial Reading Clinic"
Rose	1984	"The Effects of Two Prepractice Procedures on Oral Reading"
Bianco & McCormick	1989	"Analysis of Effects of a Reading Study Skill Program for High School Learning-Disabled Students"
Knapczyk	1991	"Effects of Modeling in Promoting Generalization of Student Question Asking and Question Answering"
Stevens & Schuster	1987	"Effects of a Constant Time Delay Procedure on the Written Spelling Performance of a Learning-Disabled Student"
Lenz, Alley, & Schumaker	1987	"Activating the Inactive Learner: Advance Organizers in the Secondary Content Classroom"
Bulgren, Schumaker, & Deshler	1988	"Effectiveness of a Concept Teaching Routine in Enhancing the Performance of LD Students in Secondary-level Mainstream Classes"
Idol & Croll	1987	"Story-mapping Training as a Means of Improving Reading Comprehension"
Rosenberg	1986	"Error-correction during Oral Reading: A Comparison of Three Techniques"
Rose & Beattie	1986	"Relative Effects of Teacher-directed and Taped Previewing on Oral Reading"
Frank, Wacker, Kieth, & Sagan	1987	"Effectiveness of a Spelling Study Package for Learning Disabled Students"
Graham & Harris	1989	"Improving Learning Disabled Students' Skills at Composing Essays: Self-instructional Strategy Training"
Graham & MacArthur	1988	"Improving Learning Disabled Students' Skills at Revising Essays Produced on a Word Processor: Self-instructional Strategy Training"

Note. Complete citations for all articles listed are found in the References for this paper.

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WHOLE LANGUAGE AND RESEARCH: THE CASE FOR CAUTION

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Like so many other educational movements (see Slavin, 1989), the advent of whole language in schools has largely preceded the careful scrutiny afforded by systematic investigation (Stahl, 1990). To the uninitiated, it may therefore seem reasonable to expect whole-language proponents to actively pursue answers to fundamental research questions, particularly those concerned with the effects of practice on literacy growth. Their reactions, however (Edelsky, 1990; Goodman, 1992a), suggest that whole language is atypical of educational movements in terms of how research informs it. This paper summarizes views expressed during an NRC debate of this issue, to be printed in its entirety in a forthcoming ERIC Arena debate-in-print. We will examine first the barriers that have prevented research from resolving basic issues. We will then turn to the question of what is presently known about whole language on the basis of available evidence.

OBJECTIONS TO RESEARCH VOICED BY WHOLE-LANGUAGE EDUCATORS

Whole-language proponents often dispute evidence provided by research. We have identified four of the reasons, though our list may not be exhaustive.

Problems of Definition

Mainstream researchers are often frustrated by the lack of coherent, universally applicable definitions (e.g., Stahl & Miller, 1989). Whole-language advocates readily admit that defining whole language is difficult (Newman, 1985; Watson, 1989). Watson suggested that one reason for the difficulty is that individual teachers must construct their own personal definitions. "Teachers," she asserted, "have arrived at whole language by way of their own unique paths. Because of this, their definitions reflect their personal and professional growth and their definitions vary" (1989, p. 131). The problem with this stance for those endeavoring to study whole-language classrooms is this: If whole language varies from teacher to teacher, general definitions and generalizable conclusions are difficult to make precise.

Researchers have approached this dilemma in a variety of ways. Stahl and Miller (1989), acknowledging the existence of multiple definitions, defined whole language broadly in their meta-analysis of comparative studies. This approach was challenged by Edelsky, who charged that they "could not distinguish whole language from language experience approaches from activity approaches of the 1950's" (1990, p. 8). More recently, researchers have examined the whole-language literature for commonalities that might be useful in establishing definitive criteria (e.g., Bergeron, 1990; Moorman, Blanton, & McLaughlin, 1992a). Bergeron constructed the following definition:

> Whole language is a concept that embodies both a philosophy of language development and the instructional approaches embedded within, and supportive of, that philosophy. This concept includes the use of real literature and writing in the context of meaningful, functional, and cooperative experiences in order to develop in students motivation and interest in the process of learning. (p. 319)

This definition has already been used to identify whole-language classrooms by researchers (e.g., Almasi, Palmer, Gambrell, & Pressley, 1991).

Problems of Paradigms

Quantitative research designs, although not invariably avoided by whole-language proponents, are not typically employed. Reasons for this tendency vary. Sometimes the dismissal is made on the basis of design problems, such as difficulties with controlling variables (Goodman, 1989, 1992b; Weaver, 1989). When, however, positivist paradigms are used in well-controlled laboratory or clinical settings, the results are often dismissed on the basis of what Stanovich termed "the bogey of ecological validity" (1988, p. 210). When quantitative designs are used to investigate the acquisition of decoding subskills, researchers are criticized for fragmenting the reading process. When the measures used are global, such as comprehension tests, the research is rejected for reasons that are more political in nature (Edelsky, 1990). Requiring students to read and respond to prescribed reconstructions of meaning, it is argued, are procedures that essentially disempower students, ignore transactional elements of reading, and delegitimize sociocultural differences among readers.

An additional argument, made on the grounds of construct validity, is well worth noting. It is that because reading is multidimensional, reducing reading ability to a single number (such as a comprehension test score) is an inherently questionable practice. Moreover, the practice of aggregating a single indicator of this kind across many students only compounds the problem (Edelsky, 1990). Indeed, numerous mainstream researchers have questioned these practices with regard to the National Assessment of Educational Progress (e.g., Calfee, 1992; Guthrie & Kirsch, 1984). Investigators seeking to compare whole language with alternative methodologies thus find themselves in an uncomfortable position: When they examine specific skills, the charge is fragmentation; when they employ global ability measures, the crime is reductionism. A sensible distinction was offered by Pearson (1992) between direct and indirect measures of reading ability. Global measures are inherently indirect, to be sure, but they are not invalid. They form one source of useful evidence in the study of complex phenomena, but they should not be the only source.

Recently, certain researchers and philosophers have argued that the findings produced by one research paradigm should not be automatically rejected but should be used to provide multiple perspectives on the phenomena studied (Howe, 1988; Salomon, 1991; Spiro, 1991; Spiro, Coulson, Feltovich, & Anderson, 1988; Stanovich, 1990). Spiro, in discussing the notion of "integrative reconciliation of paradigms," used the metaphor of observing a landscape to underscore the need for more than a single vantage before significant understanding can result. In other words, to appreciate a landscape fully, we might photograph it from several angles, measure what it contains using a variety of instruments, and walk through it a number of times along different paths. Each act contributes information useful to our appreciation, and each has inherent limitations. We should therefore welcome a diversity of data gathered in a variety of ways. Spiro argued that the same is true for research, especially research aimed at exploring processes as complex as reading.

Problems of Practitioner Access

Consistent with whole language's constructivist philosophy is a third factor, a belief that teachers must be permitted access to knowledge partly by means of their own professional efforts to construct it through classroom research. Traditionally, as Stephens (1992) pointed out, teachers have been obliged to rely on researchers to distribute and mediate findings. Whole-language philosophy, on the other hand, encourages teachers to reflect on their own practice in order to inform their views of instruction and literacy acquisition. We fully endorse this aspect of whole language; we do not, as Goodman recently asserted, dismiss teacher evidence "as only anecdotes" (1992a, p. 356).

However, constructivism raises important epistomological questions. Should practitioners rely only on their own experiences within the classroom? Should their construction of professional knowledge not also include consideration of research produced by others? When teachers choose to publish (i.e., to add the products of their research to a publicly accessible database), should their findings be accepted uncritically, without regard to well-established criteria governing the credibility and generalizability of their results? And are teachers who eventually construct positions opposed to whole language to be respected for the process through which they have traveled to reach their conclusions?

We contend that the construction of knowledge by practicing teachers is a desirable process. It should, we believe, be facilitated by providing an extensive environment of existing findings that teachers are free to confirm or refute through practice. We object, however, to limiting that environment to findings conducive to a particular kind of conclusion. In a compilation of whole-language research, for example, Stephens (1991) cited numerous studies that are tangential to whole language as well as studies employing quantitative, comparative paradigms. Her inclusive policy suggests that she was receptive to diverse designs and approaches as well as to consideration of an assortment of related issues. Nevertheless, she omitted the Stahl and Miller (1989) meta-analysis and other appropriate research reports. In fact, within the rubric of her four subjective criteria for selection, Stephens included a total of 10 comparative studies, all of them generally favorable to whole language. Not one of the numerous unfavorable reports was cited. We suggest that some whole-language adherents do not take seriously the notion of removing interpreters between teachers and research. Stanovich (1988) provided, we think, a cogent depiction of the ideal:

> An adherence to a subjective, personalized view of knowledge is what continually leads education . . . down the well-traveled road of fads, gurus, and uncritical acceptance of so-called authorities. . . . [W]hat science accomplishes with its conception of publicly verifiable knowledge is the *democratization* of knowledge, an outcome that frees practitioners and researchers from reliance on authority. It is science and the idea of depersonalized knowledge that frees individuals from slavish dependence on authority; and it is subjective, personalized views of knowledge that degrade the human intellect by creating conditions in which it is inevitably subjugated to an elect few whose personal knowledge is not accessible to all. (p. 210)

We suspect that nearly all whole-language writers would endorse these views and that they would react indignantly at any suggestion that a problem to the contrary has emerged. Nevertheless, in their zeal to exclude mainstream researchers from their role as teacher informers, some whole-language proponents appear to have adopted such a role themselves.

Problems of Rhetoric

Less-charitable critics of whole language have suggested a fourth reason for the research impasse. It entails what they perceive as a rejection of contrary evidence in favor of philosophical assumptions and politics (Stanovich, 1991a). According to Moorman et al. (1992a), "[t]hese assumptions shape the whole-language version of truth and inhibit discussion" (p. xii; see also Moorman et al., 1992b). This ideological tendency, where it exists, is obviously antithetical to scientific inquiry, in which theory is informed by, and may well change on the basis of, new evidence. We do not believe that such a tendency exists uniformly among whole-language advocates. We suspect, however, that it is sufficiently prevalent to have initiated (a) the frequent charges that whole-language philosophy is more dogma than science and (b) the frequent use of religious metaphors to describe the movement (McCallum, 1988; Samuels, 1991).

HOW WELL DOES RESEARCH SUPPORT WHOLE LANGUAGE?

In our view, the answer to this important and complex question cannot be an all-or-nothing pronouncement but must be expressed as a matter of degrees. We examine here four facets of the question. We contend that available evidence from a variety of sources is generally unsupportive.

Comparative Studies

Investigations comparing whole language with conventional, basal-based instruction in kindergarten and first grade were summarized by Stahl and Miller in their 1989 meta-analysis. Their key findings are as follows:

> (a) that whole language or language experience approaches (WL/LEA) appeared more effective than basal reading (BR) programs in kindergarten but not first grade; (b) that their effects were stronger on measures of word recognition than on comprehension; (c) that more recent studies show a trend toward stronger effects for BR programs; (d) that WL/LEA programs appear to produce weaker effects for populations labeled "disadvantaged" than they do with populations not so labeled; and (e) that studies with higher rated quality tend to produce lower effect sizes. (summarized by Stahl, 1990, pp. 141-142)

It is difficult to derive much support for whole language from these findings, taken together. This is especially evident when the contribution of the older language-experience studies is excluded. In other words, the review suggests a trend unfavorable to whole language, which is a principal reason we cannot agree with Schickedanz, who concluded from this research synthesis that "[w]hole language/language experience approaches are overwhelmingly effective at the readiness/kindergarten level" (1990, p. 128).

Since the appearance of the Stahl and Miller review, two important studies have appeared that amplify these conclusions. In one, a 12-week experiment with preschool children revealed that direct instruction led to greater gains in phoneme knowledge and word recognition than was the case in a far more constructivist setting (Byrne & Field-Barnsley, 1991). Vellutino (1991) correctly interpreted this finding as a caution to anyone tempted to interpret Stahl and Miller as evidence favoring whole language in kindergarten. In the second study, first-grade children in classroom settings were observed over an entire school year. The more meaning-centered approach involved 15 minutes of decoding instruction daily, whereas the more code-oriented setting entailed three times this amount. Children in the latter classrooms demonstrated substantially greater ability to decode both regular and irregular words (Foorman, Francis, Navy, & Liberman, 1991). These studies not only reinforce skepticism about the claims of whole language but exemplify a welcome new tendency among mainstream researchers to target specific claims made on behalf of whole language.

Quality of Whole-Language Research

Another cause for caution in interpreting the comparative studies is recent questions raised about their quality and about the quality of noncomparative investigations of whole language as well. Have these investigations been conducted in a manner that conforms to the research standards prescribed for the paradigms selected?

To answer this question, Almasi et al. (1991) used the literature-generated definition of Bergeron (1990) to identify all studies undertaken in the past 20 years that meet Bergeron's consensus criteria of what whole language is. Only 16 studies were found, a result that in itself raises serious questions concerning the breadth of the whole-language research base. Moreover, only one of these was among the studies examined by Stahl and Miller, who claimed that their approach was "to err on the side of inclusion" (p. 146). This fact further constrains any conclusions to be drawn from their review, particularly inferences favorable to whole language.

Almasi et al. then proceeded to gauge the quality of each study by applying established research standards. For the 12 quantitative studies, the criteria of Campbell and Stanley (1966) were employed. For the four qualitative studies, criteria developed by Lincoln and Guba (1985) were used, together with recent considerations raised by other writers on qualitative methodologies. At the risk of oversimplifying this detailed inspection of whole-language research, we note only that none of the studies met all of the applicable criteria and that only three met even a reasonable proportion of them. Almasi et al. concluded "that the construct 'whole language' remains empirically untested."

This finding relates to our earlier discussion of teachers as constructors of professional knowledge, for it suggests that in the case of whole language they are left largely to their own devices in order to inform their practice. We concur with the observation of Almasi et al. (1991) that "[t]he practice of relying solely on self-support data for consensus, rather than opening the data up for critical peer review, relegates the central tenets of the whole-language philosophy to relativism."

Support for Specific Practices

Whole-language advocates have been quick to point out that their perspective is more than a collection of methods, that it is instead "an attitude, not methods" (Rich, 1985, p. 718), "[a] philosophy rather than a methodology" (Clarke, 1987, p. 386), a "theory in practice" (Edelsky, 1990, p. 8), "a set of beliefs, a perspective" (Altwerger, Edelsky, & Flores, 1987, p. 145). But as Stahl (1990) indicated, it is not possible to research the effects of an educational philosophy other than by inspecting the observable teacher practices that issue from it. Indeed, although Altwerger et al. maintained that whole language is not practice, they acknowledged that "[i]t must become practice" (1987, p. 145).

Regarding this translation of philosophy into method, whole language inherits respectable research bases underlying some of the practices that its adherents espouse. Examples include using writing instruction to benefit reading development (see Tierney & Shanahan, 1991); using predictable books employing repeated phrases and structures (Bridge & Burton, 1982; Bridge, Winograd, & Haley, 1983); and returning to the same book repeatedly (Blum & Koskinen, 1982; Herman, 1985; Herman, Dewitz, & Stammer, 1980; L. J. O'Shea, Sindelar, & D. J. O'Shea, 1985; Samuels, 1979; Taylor, Wade, & Yekovich, 1985).

Whole language may rightly avail itself of this research base, which serves as powerful justification for much of what one observes in whole-language classrooms. Nevertheless, this extant support for many of the practices congruent with whole-language theory clouds the overall research picture concerning whole language specifically. Whole language does not have exclusive claim to these practices, and many of the teachers who embrace them eschew the whole-language label. For their part, whole-language adherents likewise frequently suggest that adoption of these practices is insufficient. Moorman et al., from their inspection of the whole-language literature, concluded that "whole language is an all or nothing proposition that teachers must accept as a comprehensive philosophical position from which they are compelled to derive appropriate teaching activities" (1992a, p. vii). Eclecticism, by which teachers might incorporate techniques espoused by other perspectives, is unacceptable (Goodman, 1992a).

At issue is exactly what the whole-language perspective suggests (or demands) about the development of decoding ability. Whole-language adherents themselves have been divided in the matter, and Baumann (1991) did a good job of highlighting the mixed messages conveyed to practitioners. Many adherents, perhaps a majority, favor direct instruction during "teachable moments," when classroom contexts make such instruction relevant to students' current mental focus. Others espouse an environmental approach in which students construct knowledge of how print functions in a supportive milieu where opportunities to interact meaningfully with print are optimized.

In light of the division, it is easy to appreciate why Adams' (1990) extensive review of beginning reading research elicited reactions from the whole-language community ranging form mildly negative to openly hostile. Many objected to (and we think misinterpreted) such statements as: "[T]here is nothing wrong with giving students well-devised worksheets" (p. 418). Others found within her treatment of the subject that "the evidence supports a whole language and integrated language arts approach with some direct instruction, in context, on spelling-to-sound correspondences" (Strickland & Cullinan, 1990, p. 433). Other educators have begun to support similar views (e.g., Gunderson & Shapiro, 1988; Spiegel, 1992; Trachtenburg, 1990).

We suggest that this is the only defensible position open to whole language, if it is to be adequately informed by available research. The view that literacy acquisition parallels oral language development in being essentially free of direct instruction "seems to be based as much on faith as on research" (Stahl, 1990, p. 149; see also A. M. Liberman, Cooper, Shankweiler, & Studdert-Kennedy, 1967; I. Y. Liberman & Shankweiler, 1979) and has been characterized by Anderson as whole language "in its extreme form" (1988, p. 9). Adams, clarifying her own position, recently offered the following view:

> For some people, the term emergent literacy alludes to the notion that literacy development is an enormously complex process—that only as its many components mature and merge together can literacy in any real sense "emerge." That is the meaning that I used in the book and tried to develop in depth. But then there are the other interpretations of the term. Don Holdaway defines it as a stage that occurs when the child has begun to recognize letters but still can't sound out words. That's very different. And in a third usage, which is one that I cannot endorse, emergent literacy is linked to the idea that literacy will naturally blossom forth if only the child is surrounded by a rich and joyful world of print. (1991, p. 210)

As researchers examine the constituent practices of the whole-language perspective, it is natural for dialogue to focus on the issue of how teachers can best facilitate the acquisition of subskills. New research specifically addressed to this issue casts additional doubts about some of whole language's more extreme claims (Byrne & Field-Barnsley, 1991; Foorman et al., 1991). Other important questions have also been raised. Whether the occurrence of teachable moments is too undependable to form the foundation of good instruction (Baumann, 1991), and whether whole-language classrooms are disadvantageous to children at risk (Pearson, 1989; Williams, 1992), are recent questions that we hope will serve to refine further the efforts of researchers.

Challenges to the Goodman Model

The model of reading proposed by Goodman (1967, 1969, 1970) presents a special issue in the more general question of whole-language research. Although we agree with Mason et al. (1992) that research into cognitive models of fluent reading has proceeded along lines separate from the social-constructivist research most often associated with whole language, we note the contention of Vellutino (1991) that the Goodman Model is central to whole-language theory. This view is common too within the whole-language community; Edelsky asserted, in fact, that "whole language developed through K. Goodman's (1969) work on a psycholinguistic model of reading" (1990, p. 8).

It is only natural for this model to be important to whole-language theory in that it postulates a top-down process in which prediction, print-sampling, and context utilization (all meaning-centered actions) are paramount. A meaning-building reader need not process every letter of every word or, indeed, successfully identify all of the words encountered because of the redundancy of language. But is this really how people read? We submit that it is not and that the Goodman Model has been largely repudiated by separate lines of research yielding convergent conclusions.

In one line, studies using eye cameras to track the motion of the eyes during reading have demonstrated beyond dispute (a) that the time required for fluent readers to recognize words in and out of context is nearly the same, and (b) that word length and word frequency—not context—predict much of the variation in eye fixations (see Adams, 1990; Just & Carpenter, 1987; Rayner & Pollatsek, 1989; and Stanovich, 1991b, for extensive reviews).

A second line of inquiry has revealed that the amount of information typically available from context (irrespective of certain celebrated, contrived examples) is remarkably small (e.g., Gough, Alford, & Holley-Wilcox, 1981; Schatz & Baldwin, 1986; Shanahan, Kamil, & Tobin, 1981) and often leads to incorrect guesses about word meanings (Pressley, Levin, & McDaniel, 1987).

A third, and unrelated, cluster of investigations has revealed that fluent readers rarely expend the effort to make predictions and other inferences as they read (e.g., Corbett & Dosher, 1978; Duffy, 1986; McKoon & Ratcliff, 1986; see also Carver, 1992; Valencia & Stallman, 1989). They find it more effective and more efficient simply to keep reading.

Finally, and perhaps most damaging of all, has been the modified replication of Goodman's (1965) study in support of the model's prediction that context greatly aids word identification. A long-recognized design flaw (see Samuels, 1985) was remedied by Nicholson (1991), who found a far more modest context effect in children from 6 to 8 years old, an effect limited to the poorer readers. Goodman's initial result, and the cornerstone of his model, appears to have been in very large part the product of a flawed research design.

We do not deny that *some* context effect exists. We are not yet prepared to go as far as Fodor (1983) in concluding that word recognition is completely "modularized"—that is, handled through automatic mental subprocesses virtually independent of a reader's meaning-building efforts. On the other hand, evidence from a variety of lines overwhelmingly informs against the Goodman view, and we concur with Nicholson that Stanovich's (1980) interactive-compensatory model is a far more viable explanation of available evidence. This model indicates that beginning readers and older readers experiencing difficulties will attempt to rely more heavily on context until word recognition becomes more nearly automatic. Even for these populations, however, context effects are far more modest than the Goodman Model predicts. Whether this trend suggests instruction that encourages contextual reliance as opposed to that which brings students quickly to automaticity has been a long-contested and heavily researched issue. We have tried here to enumerate a few of the concerns about the former view.

IMPLICATIONS

The full impact of recent key studies and reviews has yet to be realized. Some of the more successful whole-language practices may need to be reexamined to explore better why they work. We suspect, for example, that predictable books are useful primarily because (a) they help to ensure early success and (b) they provide for the repetition of words, and *not* because they prepare children to be predictors and context users. Other practices, such as those concerned with the role of direct decoding instruction, will need to be reconsidered with care if recent results are to be accommodated. This is not to say that balance is not possible or desirable. Vellutino (1991) summarizes current circumstances:

> Research findings, on balance, tend to favor the major theoretical premises on which code-emphasis approaches to reading instruction are based and are at variance with the major theoretical premises on which whole-language approaches are based. However, the findings do not preclude the compatibility of certain features of both approaches. (p. 437)

We heartily agree, and we suggest that many teachers have arrived at similar appraisals. At the same time, they find themselves in a perplexing crossfire of contradictory advice and evidence. The research agenda we set forth (McKenna, Robinson, & Miller, 1990) remains largely unfulfilled. Until more is known, our own advice to practitioners can be summarized in two words: caution and self-reliance. Through even-handed consideration of what has been written, and through careful reflection on their own classroom experiences, teachers appear to be arriving at approaches that work *for them*, regardless of how those approaches may be labeled by others.

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A MOTIVATIONAL PERSPECTIVE ON LITERACY INSTRUCTION

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A growing body of research suggests that teachers and instruction play a crucial role in establishing student motivation for learning and literacy (Ames, 1992; Blumenfeld, Soloway, Marx, & Krajcik 1991; Hiebert & Fisher, 1991). Because teachers implement literacy instruction primarily through tasks, they represent the basic instructional unit in classrooms. Thus students learn about reading and writing through their daily activities, and these activities influence their motivation and engagement, as well as their purposes and values for literacy. In this paper, I suggest that the focus of motivational analyses should be on evaluating the literacy tasks in classrooms. In support of this view, I discuss and illustrate the features of tasks that influence children's motivated behaviors during literacy instruction.

MOTIVATED LITERACY

Consider first graders Ian and Jamie. Ian's teacher had suggested that the students gather five additional words for their personal word banks by perusing the environmental print in their classroom. Ian surveyed his word bank, and announced, "I don't have many words. I want to get 10 new ones." Ian moved to the color charts composed during the early part of the year and selected several "black" words. He read the text aloud as he wrote. When he came to the statement, 'Watermelon seeds are black,' he said, "*Water* . . ." but then stopped, unable to decode the word. He tried using meaning clues, but these did not help him. He finally sounded out *melon* using his knowledge of the consonants. Later, he explained, "I knew water, but not the vowels in melon."

Down the hall in another first-grade classroom, Jamie was staring at the blackboard and trying for the third time to copy a cloze sentence onto his paper. He had erased so many times his paper had begun to tear, His teacher's words, "Do your best handwriting today. I'll be checking handwriting and language" echoed in his ears. Jamie's understanding of the purpose of the task was that each sentence had to fit on exactly one line of the paper. With a final burst of effort, he crammed the sentence onto the line: *Are you ____ OK?* Almost as an afterthought, he glanced at the four word choices: *feel, feeling, play, playing.* He quickly selected a word, wrote *playing* in the blank, and, with a sigh of relief, handed in his paper.

What differentiates Ian and Jamie is not their reading achievement; both are average readers. What distinguishes these two students is their motivation for literacy.

Motivated students are strategic, persistent, and self-regulating (Paris, Wasik, & Turner, 1991). They believe that effort, not ability, makes the difference in learning (Borkowski, Carr, Rellinger, & Pressley, 1990), and they welcome challenges (Clifford, 1984). When tasks or environments seem to conspire against them, motivated students take charge: they change tactics or reassemble resources (Rohrkemper & Corno, 1988). As the example illustrates, Ian approached tasks with enthusiasm, sought challenges, and used reading strategies to construct meaning. Jamie, one the other hand, had little understanding of or interest in his reading tasks. His goal each day was simply to complete tasks and to follow directions, not to learn or communicate with others. Instead of challenging him or piquing his interest, many of his tasks frustrated, mystified, or bored him.

COGNITIVE AND MOTIVATIONAL ASPECTS OF LITERACY TASKS

Academic tasks form the backbone of classroom literacy instruction because students engage in curriculum primarily through tasks related to reading and writing (Doyle, 1983; Fisher & Hiebert, 1990). Previous work on academic tasks suggests that they serve as critical links among student motivation, student cognition, instruction, and learning (Blumenfeld, Mergendoller, & Swarthout, 1987). As the examples of Ian and Jamie illustrate, tasks may serve as invitations to thinking and problem solving or as barriers to understanding; they may support persistence and challenge-seeking or they may discourage and confuse. Tasks influence students' learning goals in two ways: through students' thinking and by their influence on the purposes for literacy that students develop.

Tasks Influence Students' Cognitive Engagement

Academic tasks organize students' information processing by focusing their attention on particular aspects of content and by leading them to process information in specific ways (Doyle, 1983). For example, more cognitively complex tasks such as responding to literature, adding text to the pictures of a story, or composing directions for a game draw attention to how literacy is used in communication and problem solving. In addition, those tasks elicit higher level thinking processes such as applying information, making decisions, synthesizing information, and making critical comparisons. In contrast, low-level tasks often emphasize simple recognition of facts and memory skills, algorithmic rather than substantive cognitive outcomes, and completion rather than learning goals. Thus students whose literacy instruction consists mainly of low level cognitive skills may dissociate literacy from higher level cognitive processes. For them, literacy may represent following directions and generating correct answers rather than opportunities for thinking or problem solving.

Tasks Establish Purposes and Uses of Literacy

Instructional tasks also communicate messages about the purpose and function of literacy. Resnick (1987) has criticized tasks common to some literacy instruction as constituting a "school" genre, one that she claims has become increasingly irrelevant to the uses of literacy for information and enjoyment. According to her critique, the exercise-type tasks found in many classrooms teach primarily "symbol manipulation" as opposed to the application of principles to bona fide uses; they deemphasize tool use (such as reference aid or consultation with others); and they promote generalized uses to the neglect of situation-specific ones. Thus, children may know how to decode and use comprehension skills in isolation, but may have few opportunities to apply these skills in useful and meaningful situations. The result may be that school learning and functional uses of literacy have become separated.

Classrooms that provide meaningful literacy experiences succeed in creating a "culture of practice" in which students use skills in their social and functional contexts (Brown, Collins, & Duguid, 1989). One example of this kind of instruction is project learning (Blumenfeld, Soloway, Marx, Krajcik, Guzdial, & Palincsar, 1991). Projects have two essential components: They require a problem that serves to direct the activities; and the activities result in a final artifact that addresses the central question. Either teachers or students may create questions. The most critical aspect of the question is that it must not be constrained, but must be open to student manipulation, thus enabling students to demonstrate emergent understanding of content and processes.

Project learning is motivational because it provides opportunities for students to grapple with problems; to construct and transform knowledge by encountering interesting phenomena and difficulties; to receive feedback from others leading to progress and improvement; and to work with peers collaboratively to create new ideas.

In the following section, I review literature that discusses the motivational consequences of classroom tasks and I illustrate with data from a study of motivation in first-grade literacy classrooms.

MOTIVATIONAL CONSEQUENCES OF LITERACY INSTRUCTION

Teachers establish the cognitive and motivational demands of literacy through the tasks and structures they provide to students. In an observational study of 84 first graders in 12 first-grade literacy classrooms, the effect of classroom tasks and structures on students' engagement in literacy was examined (Turner, 1992). Tasks were categorized as open or closed (Willems, 1981). Open tasks were those in which students could decide which information they would use, and/or how they wanted to use that information to solve a larger problem. Closed tasks, in contrast, were those in which students were directed to use certain operations and to arrive at a specific conclusion. Open tasks were found to promote significantly greater engagement, as indicated by increased reading strategy use, persistence, and volitional control. An analysis of open literacy tasks reveals that their motivational value lies in four characteristics commonly associated with intrinsic motivation (Lepper & Hodell, 1989): (a) challenge and self-improvement, (b) student autonomy, (c) the pursuit of personal interests, and (d) social collaboration.

Challenge

It has been as assumption in education that "nothing succeeds like success." To that end, many teacher have assigned easy, routinized tasks, and have avoided more difficult work for fear that making errors might cause students to feel discouragement and frustration. Motivational theory does not support the provision of errorless learning tasks. The key ingredient in motivating tasks is, in fact, moderate difficulty (Clifford, 1991; Vygotsky's 1978 "zone of proximal development" is also relevant here). People prefer moderately difficult tasks because of the competence information these tasks provide. By assessing what they can and cannot do, learners can use challenging tasks to measure their progress toward a goal. When students complete difficult tasks, they have concrete evidence of their accomplishments and can see themselves as competent (Schunk, 1989). On the other hand, students perceive minimally challenging situations or instances of assured success not as satisfying, but as boring and meriting only perfunctory effort. Therefore, low challenge can have a debilitating effect on motivation.

The benefits of moderate difficulty are supported by a variety of motivational theories. For example, Csikszentmihalyi's (1975) theory of emergent motivation hypothesizes that persons cannot be truly engaged in an activity unless the challenges are in balance with their skills, or abilities to respond. On the one hand, if challenges are greater than skills, eventual frustration will result in worry and anxiety; on the other hand, if one's skills exceed the challenge of the task, boredom will ensue. The key to keeping a student engaged is providing feedback about progress so that students will continue to seek new challenges.

Clifford's (1984) theory of constructive failure offers another perspective on the importance of challenge. This theory proposes that difficulties are inherent in true learning and that moderately difficult tasks will evoke constructive responses such as increased persistence and strategy use when one encounters temporary roadblocks. In freely chosen tasks that are appropriate to skill level, a "failure" will not be interpreted as lack of ability or effort, but as a need to reappraise strategies. Thus "optimum challenge" elicits not frustration, but constructive responses to error-making and failure.

One example of the potential of challenging tasks to evoke strategy use can be seen in a task used in several first-grade classrooms (Turner, 1992). Teachers reproduced text from stories or nursery rhymes on oaktag, cutting the sentences into individual words. Students were to reconstruct the sentences in a meaningful way. This was a challenging activity for even the best readers, yet it was accessible to readers at all levels. The task required students to use a sophisticated array of strategies, including designing a plan, rehearsing, decoding, monitoring for upper- and lowercase letters and punctuation, sequencing, and backtracking for comprehension. Errors prompted them to try alternate word sequences. Student tried many arrangements, rereading each time to determine if they were satisfied with their construction. The open nature of the task enabled students to formulate their own goals, to monitor their progress, and to evaluate their own solutions.

Conversely, observations of students performing many closed tasks revealed that they rarely used strategies or devoted time to self-monitoring or evaluation (Turner, 1992). One reason appears to be that the mostly drill-type and decontextualized tasks were too easy for students and thus a poor match for their skill level. The most frequent tasks in this category were worksheets in which students matched vowels to pictures, selected rhyming words, or circled a correct answer. Intrinsic motivation theory (e.g., Csikszentmihalyi, 1975, 1990) predicts that students would consider these tasks boring, and that, too, appeared to be so. Rohrkemper and Corno (1988, p. 297) argue that errorless learning tasks "rob students of the opportunity to respond flexibly to tasks, to transform and initiate them, and thereby assume control of their own learning."

As these examples demonstrate, more complex and challenging literacy tasks encouraged greater student involvement and greater use of strategic thinking. These findings contradict conventional notions that success promotes, and error destroys, students' learning and motivation. Maintaining moderate difficulty is the best assurance of promoting student interest and involvement in literacy.

Autonomy

In most instructional situations, there is a tension between allowing students to make choices about their learning and closely following the prescribed program. Advocates of close adherence to prescribed curricula fear that allowing students to select the books or topics they will study, or when, where, and with whom to work, may hamper them in developing the desired literacy skills. However, research on intrinsic motivation suggests that allowing student choice promotes motivation and intrinsic interest by augmenting students' sense of self-control, and thus supports literacy development.

Classroom environments that promote student autonomy have been found to have a positive effect on elementary students' intrinsic motivation for learning (e.g., de Charms, 1968; Deci, Nezlek, & Scheinman, 1981). For example, Ryan and Grolnick (1986) found that elementary children who perceived their classrooms as more autonomy-promoting reported more interest in their school work, perceived competence at school, and general self-worth. College students who learned text material in order to put it to personal use reported more intrinsic motivation for learning and greater conceptual understanding than did students who learned the material to be tested (Benware & Deci, 1984). Conversely, Grolnick and Ryan (1987) showed that children who were asked to learn material for a test had lower interest in the task and impoverished conceptual learning as compared to students who were asked to learn the material with no mention of a test.

I observed two levels of student choice in first-grade literacy classrooms (Turner, 1992). At one level, students were allowed to choose some of the tasks they wanted to work on. In several classrooms, teachers designed multiple activities that supported their instructional goals and allowed students to select from among them For example, during a week-long celebration of *Clifford's Birthday Party* (Bridwell, 1988), students could write party invitations, describe the party they gave for Clifford, write about the classroom party, make a list of party supplies, draw and label Clifford's gifts, and read other Clifford books. Because students were allowed to select the activities they found most interesting, engagement appeared genuine, the students' products showed care, planning, and originality, and tasks sparked task-oriented conversations.

At a second level, when students completed open, as opposed to closed tasks, they had to decide how to approach and structure them. Because open tasks allowed a variety of responses, students had to make decisions about how to plan and monitor their learning. Thus, allowing students to choose provided valuable lessons in self-regulation. Teachers rehearsed the use of resources and how to plan, monitor, and evaluate tasks. At the conclusion of literacy activities, two teachers regularly discussed successful and less successful choices and strategies and had children suggest improved tactics. By providing choices through open tasks as well as allowing students to sequence learning activities and to select learning partners, teachers both promoted engagement with the task itself and provided opportunities for students to learn self-regulation strategies.

In contrast, when closed tasks predominated, both task selection and the flexibility of the task itself were curtailed (Turner, 1992). In those situations, it was typical for all students to be given a list of identical assignments to complete, often in prescribed order. Similarly, the cognitive processes required were specified—there was little leeway for students to approach them from diverse or original perspectives. Because tasks were routine, there were few signs of student strategy use or monitoring, and students rarely devoted more than the requisite 2 to 3 minutes to completing the activity. Students did them mechanically and efficiently, showing satisfaction in completion, but not in learning. These findings imply that teachers who can guide choices and support student decision-making while addressing important curricular goals may be more successful in promoting motivation for literacy.

Personal Interest

Recent studies have highlighted the positive role of intrinsic interest in supporting students' cognitive engagement with learning. Interest in a subject matter or topic involve both feeling-related characteristics, such as enjoyment and involvement, and value-related characteristics, such as attributing significance to an activity (Schiefele, 1991). Studies of middle school (Pintrich and DeGroot, 1990) and upper elementary students (Meece, Blumenfeld, & Hoyle, 1988) have demonstrated that students who were motivated to learn the material (as opposed to get good grades) and who believed that their school work was interesting and important were more cognitively engaged in trying to learn and understand the material.

Intrinsic value is also an important component in students' decisions about whether or not to become and remain cognitively engaged in academic work. Nolen (1988) found that task value significantly predicted the extent to which junior-high students voluntarily used strategies in learning situations. Early adolescent students who perceived their tasks to be interesting and worthwhile also reported more self-regulation and persistence (Pintrich & DeGroot, 1990).

Schiefele (1991) found that college students who showed more interest in texts used deeper processing, as well as more elaboration, critical thinking, and information-seeking strategies. In addition, they invested more time and effort and reported higher intrinsic motivation, self-esteem, skill, and potency in those subjects. These studies imply that incorporating student interest into literacy instruction would have a beneficial effect.

Observations in first-grade classes (Turner, 1992) revealed that open tasks, such as free reading and composition, provided opportunities for students to mold activities to their interests. During reading practice, students were encouraged to select books they were interested in or books they wanted to master. The added incentive of choosing an intriguing book supported students' engagement during oral reading time and encouraged them to persist, even with difficult text. Similarly, frequent composition opportunities allowed students to explore topics of importance to them. When one class was writing on the theme of *butterflies,* students' responses ranged from discussions of the life cycle to pretend fantasies. Students often wrote for extended time. In contrast, most closed tasks provided little flexibility. In some classes, students read identical stories, and instead of composing, filled in correct vocabulary words in identical sentences or copied sentences from the board. When students did compose, opportunities to pursue interests were often limited by assignments such as, "What was your favorite part of *Charlotte's Web*?" or "Tell what we saw at the farm today." In these instances, students' responses were more likely to be short and formulaic rather than elaborative and creative. In summary, during open tasks that allowed for student interests, children were observed to employ more critical thinking, to plan and monitor more, and to invest more time and effort.

Social Collaboration

In many classrooms, literacy instruction is given to groups, but children work alone. Individual work is intended to supply most of the skill practice a child needs and successful completion of tasks while working alone is considered a gauge of independence and achievement. Recent conceptualizations of learning (e.g., Collins, Brown, & Newman, 1989) question this view. They describe learning as an apprenticeship in which teachers and peers scaffold instruction for learners and use modeling and coaching to teach strategies for thinking and problem solving. Resnick (1987) has emphasized that separating "in school" learning from "out of school" learning by the imposition of different rules and practices such as maintaining quiet and solving problems alone is both unrealistic and unproductive. The assumption that children will learn simply by completing the curriculum fails to acknowledge the social nature of learning as well as the cultural and social nature of literacy itself.

In contrast, when classroom procedures sanction the social nature of learning, students can communicate with each other about their tasks and gain greater understanding of them. Social interaction is motivational in several ways. First, peer comments and ideas pique students' curiosity, encouraging interest. Second, peers provide models of expertise that others can emulate. By interacting with peers of various levels of expertise, students are able to see the results of progress and improvement in others. This, in turn, increases their belief in their own potential for progress, or their self-efficacy (Schunk, 1989). In addition, peer models provide benchmarks for students' own self-evaluations, helping them to set proximal goals and gauge improvement (Brown et al., 1989). Third, working collaboratively promotes student engagement in work (Slavin, 1987).

Open tasks, because of the flexibility they allow, are more conducive to promoting student collaboration than tasks in which only one approach or one answer are prescribed. Students who must work alone are deprived of these opportunities for sharing, modeling, and group problem solving. In addition, the very students who need to learn how to ask for academic help may never have that opportunity when literacy is presented as a solo activity.

In summary, both motivational theory and research in first-grade classrooms support the use of classroom tasks that require high-level, complex thinking processes and problem solving rather than errorless learning. More complex, open-ended, authentic activities promote the kind of motivated behaviors that lead to greater engagement in literacy. When students are actively involved in problem solving, they are more likely to develop an interest in literacy for its own sake and greater cognitive engagement in reading and writing.

Because reading and writing tasks comprise such an integral part of children's literacy instruction, the role of tasks in both learning and motivation merits continuing research and scrutiny. Literacy tasks that promote errorless learning or mechanical adherence to form risk the disengagement of countless young children. Examining the tasks and conditions that constitute students' daily experiences in literacy classrooms may help explain why some students approach tasks flexibly and strategically, expend effort, and persist in challenging activities whereas others do not. This motivational perspective may provide a useful approach to identifying and supporting students at risk for literacy.

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MEXICAN-AMERICAN BILINGUAL KINDERGARTENERS' COLLABORATIONS IN MEANING MAKING

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Both qualitative and experimental research have established that reading stories aloud to children and providing opportunities to talk about the stories enhance language growth (e.g., Chomsky, 1972; Feitelson, Kita, & Goldstein, 1986; Ninio & Bruner, 1976) and can support the development of critical, literate thinking (Short & Pierce, 1990; Wells, 1990). The nature of the interaction between teacher and children surrounding stories appears critical to those learnings (Cochran-Smith, 1984; Martinez & Roser, 1985). Just as storytime and story talk that accompanies it offers opportunity for language growth in all classrooms, it seems to provide optimal conditions for children acquiring a second language (Krashen, 1982). In nonthreatening, nonevaluative contexts, second-language learners are drawn into a compelling storyline. As they listen, they ask for clarification, they repeat story language, they predict what will happen, and they question characters' motives. They do all this in natural, self-initiated ways—using language because they want to know or to share what they think. Thus, during storytime, children listen to rich language models as they experience children's literature, they have real communicative purposes to use language as they express their own thoughts and feelings about stories, and they are exposed to a skillful discussion leader (teacher) who can engage them in collaborative meaning-making. These benefits of reading stories aloud and giving children opportunities for response and discussion seem particularly advantageous to young children who must negotiate school instruction in two languages.

Consistent with Vygotsky's (1978) social constructivist theory, the interactions or dialogues about stories read aloud should provide opportunities for questions to be posed, meanings to be constructed and clarified, background knowledge to be extended, and connections to life experiences and other literary works to be made. These interactions serve first as an external activity in which children participate socially, and second, as models of language use and text interpretation for children to internalize over time. As children internalize these processes, they become able to interpret literature independently.

Observational studies of children's discussions of stories conducted with children participating in their native language corroborate that these interpretive processes do occur (Cochran-Smith, 1984; Eeds & Wells, 1989; McGee, 1992), but few studies specifically focus on children who participate in discussions in a second language. The purpose of this study was to describe the circumstances and conditions that support engagement in interpretative discussions of stories by second-language speakers, that is, what happens in storybook discussions when the teacher reads aloud stories in English to children who are most comfortable speaking another language.

METHOD

Participants

Twenty-two Mexican-American children and their teacher in a bilingual (English and Spanish) kindergarten classroom were selected as participants in the study. The school district's central office personnel recommended this classroom because it is characterized by the frequent use of children's literature, had a teacher willing to cooperate with the researcher in this investigation and included many children whose first language was not English. The kindergarten was located in a Central Texas urban school, with a population that is 55% Hispanic. Twenty-one of the kindergarten children qualified for free or reduced lunch and breakfast programs.

The IDEA Oral Language Proficiency Test (1989), administered by the school for both languages, revealed a range of English and Spanish speaking ability among the participants: 8 children tested as non-English speaking, 14 children tested as limited-English speaking (3 of the 14 tested as non-Spanish speakers). According to district policy, these children were given bilingual instruction by a certified bilingual teacher.

Procedure

For this observational study, I assumed the role of participant observer (Erickson, 1986) for 12 weeks during the storytime interactions, and recorded extensive field notes. Teale's study (1986) about the home literacy background of Mexican-American children in San Diego revealed that storybook reading was not a part of their everyday lives. With children of similar backgrounds, the teacher in this classroom set aside daily time (25–30 minutes) for reading aloud and talking about quality children's literature. "Quality" children's literature was defined as text possessing aesthetic traits that provide enjoyment, develop imagination, offer vicarious experiences, and present the universality of experience (Huck, 1993, pp. 8–13). For this study, five experts in children's literature rated a set of 50 books according to four guidelines: high-quality illustrations and text, appropriateness for kindergarteners' cognitive development and interests, favorable representations of ethnic groups, and substantive thematic content. The 12 books that received the highest ratings were selected for videotaped sessions and placed in units with 5 to 8 other books connected by theme, author, topic, or genre (Roser, Hoffman, & Farest, 1990). The literature was read aloud in English, preceded by a short summary in Spanish. Children were encouraged to talk about the stories in whichever language they chose, and participation in discussion was optional.

The principal sources of data were the collection of video- and audio-tapes of the storytime interactions gathered once per week for the 12 weeks. In addition, I conducted audiotaped informal interviews with all the children in small groups of three, as well as with the teacher. These interviews, taken at the beginning, the middle, and the end of the study, served to clarify and verify the participants' intentions, meanings, opinions, ideas, and feelings about the stories, and about the interactions themselves. The 12 audio- and video-taped discussions, and the audiotaped interviews, were completely transcribed for analysis. In addition, the teacher was asked to keep a journal of her personal responses and thoughts about the books she read to the children.

Data Analysis

In the complete study (Battle, 1993), the story discussions were analyzed from three perspectives: (a) the characteristics of meaning-making when bilingual children have storytime in English (e.g., focus of talk, intentions of talk); (b) the participation structure of the discussions (e.g., amount of teacher vs. child talk, teacher- and child-initiated conversations, patterns of participation, teacher strategies); and (c) the purposeful uses of the two languages (e.g., when each language is used, by whom, for what purpose). This paper, however, closely examines the transcripts and field notes in an effort to identify those conditions and circumstances that seem to promote or encourage interpretive and collaborative interactions between children and teacher.

To accomplish this purpose, a coding procedure was developed for the transcripts that provided a method of discovering: (a) the range of topics that were discussed, (b) the perceived intent of each topic of conversation, and (c) the amount of participation attributed to children versus teacher. Each transcript was coded into message units (MU) and conversation units (CU). A message unit was defined as the minimal unit of conversational meaning contributed by a speaker about the story (adapted from Martinez, Roser, Hoffman, & Battle, 1992). For example, "That sounds like me!" counted as one MU. In addition, an expression of agreement, such as "Uh-huh," also counted as an MU because it contributed meaning to the conversation. The number of MUs contributed by children and teacher in each story discussion were compared.

A conversation unit was composed of sustained discourse (more than one speaker contributing a message unit) in which there was an identifiable central topic. Each time a new topic was introduced marked the beginning of a new CU. Each CU was given a topic label according to its central focus and the intent of the conversation (e.g., "interpretation of character motive"). The total number of CUs was analyzed by the focus of talk they represented.

Of particular interest for this paper were those CUs which signaled interpretive conversations. Topic labels such as "interpretation of character motive," "exploration of possible solutions to character's problem," "elaboration," or "connection with personal experience," gave indication of CUs in which children were actually grappling with ideas related to the story. The transcripts were then reexamined to ensure that the selected CUs were characterized by one or more of the following qualities of interpretive conversations as suggested by researchers of classroom discussions of literature: (a) a negotiation of ideas through turn-taking (Eeds & Wells, 1989; Rogers, 1987), (b) the posing of alternative ideas (Eeds & Wells, 1989), and (c) movement beyond the literal level (Alvermann, 1989). The selected, interpretive CUs were then compared in search of commonalities in the conditions and circumstances surrounding these conversations.

RESULTS

Overall, a wide range of topics, both literal and interpretive, were discussed by the children and their teacher. Six categories of CU topics emerged from the data through the use of the constant comparative method developed by Glaser and Strauss (1967). The six categories included: book features (e.g., description of Caldecott award), familiarity with literature (e.g., connection with other story), literary elements (e.g., interpretation of character motive), personal experience connections, knowledge about language (e.g., clarification of language form), and illustrations. A total of 568 CUs were coded. Of these, 22% focused on discussions of the characters in the stories, either interpretation of character motives or feelings, or personal connections with the characters. The children and the teacher contributed roughly equal amounts (49% and 51%, respectively) of the total messages units (*n*=4,216) across the 12 story discussions.

Operating within the context of the storytime interactions, both the influence of the text and the role assumed by the teacher emerged as important contributors to turning children's natural desire to understand their world (Donaldson, 1978) into collaborative meaning-making in whole-group story discussions. The text seemed to provide a topic or situation powerful or interesting enough to engage the children's attention and their sense-making efforts in focusing collaboratively. The teacher's role seemed to be to highlight either the aspects of text or the children's comments and questions that might hold potential for engendering discussion, and then to allow the children to talk. Further teacher participation supported and maintained children's talk in progress. Two representative conversation units were selected to illustrate these findings.

Conversation unit 1: Exploration of possible solutions. While the teacher is reading and translating *Alexander and The Wind-Up Mouse* (Lionni, 1969), the children are looking at the illustration of the box of old toys the little girl is going to throw away. Willie, the beloved wind-up mouse, who is in the box, is telling Alexander, the real mouse, that all the toys in the box will be thrown away. The children engage in the following discussion:

Juan: Is that really Willie?
(Teacher reading text) "We will all be thrown away."
Juan: Is that really Willie?
T: Yes, that's really Willie. Le platicó el ratoncito que la niña había cumplído años y que mucha gente le había regalado regalos nuevos y aquí en ésta caja habían echado todos los regalos viejos . . . [The toy mouse told him that it was the girl's birthday and that many people had given her new presents and here in this box they had thrown all the old presents that were . . .]
Juan: Is that really Willie?
T: . . . quebrados y los que ya no quería la niña. [. . . broken and those she no longer wanted.]
Juan: Is that waste?
T: ¿Y quién está en la caja? [And who is in the box?]
Pedro: Willie!
T: Pobre Willie! ¿Qué van a hacer con Willie? [Poor Willie. What are they going to do with Willie?]

Juan: He got waste?
Pedro: He could run away.
C: (many children at once) He can't run away!
Sky: They're gonna throw him away!
Joseph: He can't run away 'cause he has . . . he needs someone to twist that little knob . . .
T: That little key. What were you saying, Juan?
Juan: Does he . . . Does he . . . does he know how to still walk if they twist that thing?
T: But somebody has to turn it. Can Alexander turn it?
Yvonne: No.
T: I don't think so.
Sky: Because he can't stand on his hind legs.

The author of this book created a conflict situation which reaches its tension peak at this point in the story. Juan is persistent in initiating dialogue by seeking confirmation for the highly undesirable turn of events in the story which has engaged his attention. A second child poses a possible solution for the character's problem, which caused the children great concern. The negotiation of ideas in this conversation builds collaboratively among the children. More children enter the discussion to explore the solution's viability and finally reject it—a truly collaborative process.

The teacher's pause during the reading to translate (and thereby highlight) an important portion of the text, seems to have given the children an opportunity for response. Although she was a definite participant in the discussion, the teacher did not engage in questioning the children to assess comprehension of the story. Rather, she clarified the "key" label, recognized a speaker, and extended consideration of the solution posed by the children by reminding them that the key on the toy mouse needed to be turned. Her contributions were supportive of the children's lead in pursuing a solution for Willie's problem.

Conversation unit 2: Connection with personal experiences. Consider now the conversation about *The Little Red Hen* (Galdone, 1973) which occurred when the teacher read the text: "So, the little red hen had to do all the housework. She cooked the meals, she washed the dishes, she made the beds. She swept the floors, she washed the windows, and she mended the clothes."

Pedro: That's what I have to do!
T: Does this sound like your mother?
Rogelio: Yes.
Pedro: No! It sounds like me!
T: It sounds like you? This sounds like your mother. I think you better help her.
Sky: I help my Mom all the time.
Pedro: I do! I have to do all the chores! All she does is just sleep and watches T.V.
T: Really? I'm going to ask her that!
Katherine: Yo le ayudo a mi mamá. [I help my Mom.]
Ibeth: Ms. Contreras. Ms. Contreras. ¿Sábes que? Yo le ayudo a mi mamá a levantar. [You know what? I help my Mom pick up.]
T: ¡Que bueno! Arturo? [That's good!]
C: (Many children talking at once) Unintelligible.
Robert: I help my mother too.

Adam: Yo no le ayudo a recoger a mi mamá! Ella solita lo hace. [I don't help my Mom clean up. She does it all by herself.]
T: ¿Pero porqué no le ayudas? Yo le voy a decir que te pregunte porque tú sabes como, verdad? [But why don't you help her? I'm going to tell her to ask you because you know how. Right?]
Adam: Sí. [Yes.]
T: Tú sabes como. ¿Alondra? [You know how.]
Alondra: I want to wash dishes, but my mommy don't let me.
Pedro: I do!
T: Maybe she is afraid that you will cut yourself. She might be . . .
Alondra: I cut myself one day.

The universality of the theme of this familiar tale provides the opportunity for children to make comparisons with their own lives. Pedro's strong, personal-experience connection to the plight of the little red hen sets the stage for a discussion that was characterized by a broad sampling of many children's personal experiences. These contributions revealed alternative situations which enriched everyone's understanding of the story theme by recognizing that, in addition to laziness, authority and age-appropriateness play a role in the distribution of household chores within a family.

The teacher's role in this discussion was simply to recognize speakers, then listen and accept children's alternative contributions in English or Spanish—a supportive rather than directive teacher role.

Discussion

Evidence throughout the transcripts showed that although their first language was not English, these children were eager participants in the discussions of stories read aloud in English. This was accomplished through the teacher's personal enthusiasm for stories, the acceptance of their natural responses to stories, the acceptance of their natural language (English or Spanish) without correction (Krashen, 1982), and optional participation in discussions.

Among the CUs that occurred throughout the discussion of a story which centered around more literal-level concerns, there were also interactions characterized by the negotiation of ideas and collaborative construction. These conversations often focused on interpretation of character motives and feelings, story theme, and personal experience connections. The children displayed remarkable willingness, even persistence, in pursuing an understanding and interpretation of the stories. They were able to take turns, agree and disagree, seek clarification, explore possibilities, and use evidence from the text to support their ideas. In some cases, the children initiated the interpretive process.

The context in which these interpretive interactions occurred was characterized by exposure to carefully chosen, quality children's literature in a nonthreatening, nonevaluative setting where the teacher encouraged children to express their ideas and feelings in their own language. When the teacher stepped back from a directive role by suppressing her own questions and answers, she supported the children's meaning-making processes. In a supportive role, the teacher recognized speakers, listened for and highlighted children's questions, and followed their lead. Under these conditions the children were willing to attempt their own explanations.

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LITERACY NEEDS OF LIMITED-ENGLISH-PROFICIENT STUDENTS: WHAT INFORMATION IS AVAILABLE TO MAINSTREAM TEACHERS?

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Mainstream teachers in all-English classrooms increasingly are asked to address the literacy needs of student who are not native English speakers. This situation is the outcome of several sociopolitical factors. First, increasing numbers of limited-English-proficient children are entering American schools. Second, limited funding of bilingual education and ESL programs has meant that 85% of the students identified as needing second-language (L2) services are *not* being served (National Education Association, 1990). Third, some L2 children are in the regular classroom because their parents have chosen not to enroll them in a bilingual or ESL program, or because not enough children from one language group are in attendance at the school to warrant such programs. Other times, L2 students are in these classrooms because they have been exited from a bilingual or ESL program.

There is a variety of sources that teachers could refer to in search of information about the reading instruction of L2 students. Among others, these include specialized books, journals, professional organizations, and newsletters. However, informal conversations with mainstream teachers who face the challenge of teaching L2 students suggest that they do not refer to these sources.

Two sources of information readily available to regularly trained teachers are teacher reading journals and basal reading manuals. Schumm, Vaughn, Klingner, and Haager (1992) examined six basal reading programs for L2 instructional suggestions given to mainstream teachers. However, they did not investigate the extent to which the suggestions reflected features unique to L2 students. The purpose of this study is to analyze what mainstream teachers can learn about the unique features of L2 reading instruction at the elementary level (K–6) from teacher reading journals and basal reading materials.

METHODS

Materials

The sources of information reviewed include all the referreed journal articles published in the *Reading Teacher* (*RT*) and *Language Arts* (*LA*) from 1979 to 1990 and five recent basal reading teacher manuals and supplementary materials published for Grades 1, 4, and 6 of the regular classroom (Harcourt Brace Jovanovich, 1989; Houghton Mifflin, 1989, 1991; Scott Foresman, 1989; and Silver Burdett and Ginn, 1989). Each of these grade levels represents critical junctures for L2 learners. First grade is when many L2 children enter school and learn to read in English, often without the benefit of knowing how to read in their first language. Fourth grade is when students enrolled in bilingual programs are transferred into all-English classrooms. Their instructional needs are different from those of monolingual children who have learned to read in one language. Many sixth-grade L2 children will have been in all-English classrooms and been reading in English for at least 2 years. They need to improve their English language proficiency and use their English reading to further their content-area learning.

Procedures

All the referreed journal articles published between 1979 and 1990 were read by one of the researchers, and those articles that dealt with L2 literacy were identified. Then a two-tiered content analysis was conducted. The first tier was qualitatively based and used a constant comparative method (Glaser & Strauss, 1967) to document the type of L2 information presented. The following categories emerged: type of situation/classroom program (e.g., all English, bilingual); geographical setting (e.g., international, U. S.); type of article (e.g., instructional, research); L1 orientation (e.g., Spanish, Vietnamese); explicit teaching information; implicit teaching information; what the article did not say about the instruction of L2 students; number of L2 references; number of L2 literacy references. The second tier identified the extent to which literacy features unique to L2 learners were indicated and explained in the article (see Table 1). This second tier was based on an adaptation of Ebel's (1980) framework, which was expanded to include current L2 literacy research findings (García, Pearson, & Jiménez, in press; Weber, 1991). A numbering scheme was used to indicate depth of coverage (0=not mentioned; 1=mentioned but no discussion; 2=mentioned with a brief discussion; 3=main focus or extensive discussion).

One researcher read the teacher manuals, supplementary materials, and language developmental handbooks sent by the basal publishers for a particular grade level. This researcher documented every time that limited-English-proficient students were mentioned in the materials. The categories of information included explicit teaching information, implicit teaching information, and information that might have provided instruction helpful to L2 learners. The second tier again identified the extent to which literacy features unique to L2 learners were indicated and explained.

RESULTS AND DISCUSSION

Teacher Reading Journals

Between 1979 and 1990, only 6% (49) of the 861 articles in *RT* and 3.1% (21) of the 674 articles in *LA* dealt with L2 literacy issues. Mainstream teachers might not have read all the *RT* articles because 47% were directed toward bilingual or ESL teachers. If they read the articles in *RT* and *LA*, they would know little about how to

Table 1

Features Unique to Second-Language Literacy

Feature	Description
Oral and written vocabulary	Discusses L2 vocabulary acquisition or instruction
Variety of registers	Explains the development of domain-specific L2 knowledge
Sociolinguistic styles	Explains the effect of L1 culture on L2 communication
Syntactic differences and similarities	Delineates differences in L1 and L2 grammatical features
Orthographic differences and similarities	Delineates differences in L1 and L2 writing systems
Phonological differences and similarities	Delineates differences in L1 and L2 sound-symbol correspondency
Concepts about print	Delineates differences in L1 and L2 literacy knowledge
Cross-language transfer	Discusses which literacy strategies transfer across languages
Productive and receptive language competencies	Explains L2 developmental differences in listening, reading, speaking, and writing
Level of language proficiency	Describes variation in L2 children's command of L1 and L2
L2 acquisition theory	Explains how children acquire L2
Background knowledge differences	Discusses the effect of different experiences and knowledge

deal with students exited from bilingual programs or how to deal with students who enter American schools later than third grade. More than 40% of the articles dealt with Spanish-speaking children, but only one article in each journal dealt with Indochinese children. Less than 50% of the *RT* articles and less than 33% of the *LA* articles included L2 literacy references, limiting teachers' opportunities to learn more about L2 reading. In terms of unique L2 features, 46% of the *RT* articles discussed sociolinguistic styles, 27% discussed vocabulary, and 21% discussed orthographic differences and language proficiency levels. Less than 20% of the articles discussed the other unique L2 features. Over a third of the *LA* articles discussed unique L2 features, with 16% focusing on sociolinguistic styles, language proficiency, and cross-language transfer, and 5% focusing on orthographic and phonological differences.

To illustrate what was presented, we have focused on what was published at the beginning and end of the study as well as during the year with the greatest number of L2 articles.

The Reading Teacher. The year 1979 marks the beginning of the study as well as the year with the largest number of L2 articles (8) published in *RT.* Teachers who read the 1979 articles would receive some instructional suggestions about how to organize and set up a literacy environment for English-speaking and limited-English-speaking students in an all-English setting. They also would receive suggestions about how to develop L2 children's oral English vocabulary, a list of recommended books, and descriptions of how to use the language experience approach. Consistent with L2 research published during that time, teachers were told that students should not be asked to read and write in English without first demonstrating English oral proficiency. Teachers would learn about similarities and differences between L1 and L2 acquisition and the implications that these findings have for L2 reading instruction. They also would learn that L2 students can make nonmeaning changes in their oral reading due to syntactic differences. However, there was limited discussion about the varied levels of language proficiency that L2 children might display. Only two articles mentioned that L2 children might already be literate in L1 and no suggestions were given about how to assess and facilitate their L2 literacy development.

Only two L2 articles were published in *RT* during 1990. These articles provided L2 reading references and noted some of the similarities between L1 and L2 literacy development. Teachers were told how to use the Directed Reading Thinking Activity and story mapping with L2 students. However, a variety of unique L2 features were mentioned but not thoroughly discussed. For example, code-switching was presented as a normal L2 development, but no examples were given; the cross-linguistic transfer of literacy strategies was mentioned, but Cummins's interdependence theory (1984) about the transfer of cognitive academic proficiency was not discussed; no explanation was given for why L2 students can become orally proficient in L2 as they learn to read and write it; the use of "comprehensible input" in the form of scaffolds and paraphrasing was presented, but there was no discussion of Krashen's comprehensible input theory (1982), which states that L2 learners need language information slightly beyond their comprehension level; teachers were told not to pay undue attention to grammatical and phonological errors made by L2 students, but no examples or explanations were given. Without further elaboration, teachers unfamiliar with L2 research may have difficulty understanding the above points. Finally, both articles were presented from a whole-language stance, and teachers who do not consider themselves to be whole-language teachers may not pay attention to them.

Language Arts. Only one L2 article was published in *LA* during 1979. Teachers would learn about the demographics of the Spanish-speaking population, the importance of respecting their students' first language, and ways to enlist the help of Spanish-speaking personnel, but no unique L2 features were mentioned.

The most L2 articles in *LA* (6) were in a themed issue published in 1986. Substantial instructional information was presented, but other than becoming familiar with research that touches on L2 acquisition theory and L2 literacy, little information was given about unique L2 features. Teachers were told that L2 students without a high level of English oral proficiency or knowledge of English names for sounds, letters, and words can learn English as they transact with English texts. Teachers were encouraged to use a language experience approach and not a structured ESL or explicit phonics approach. Teachers were shown how to provide comprehensible input to students by using thematic activities that incorporate a variety of modalities and sustained language support, although comprehensible input was not defined. Teachers were told that their decision-making needed to take into account home-school literacy and value differences, but no examples were given. Similarly, they were encouraged to use multicultural literature but no books were recommended.

Only one L2 article was published in 1990. Teachers would learn about integrating ESL instruction with content-area learning. They also were told that it takes a long time for L2 students to develop L2 proficiency, and that L2 students need to develop oral proficiency as well as cognitive academic proficiency. However, no research evidence was presented, nor was either point explained in relation to the assessment and placement of L2 students.

Basal Reading Materials

The most information on L2 students was included in the supplementary handbooks published by three of the five basal program series. Similar to Schumm et al. (1991), we found the location of this information problematic because teachers who work with L2 students need immediate access to the desired information, which was not given in the manuals. Another problem with the basal reading materials was that they did not provide specific information related to the different grade levels.

Close examination of the basal reading information reveals that most of it dealt with oral language development rather than literacy development. The one unique feature addressed at length in all the series was vocabulary development. None of the series discussed differences in registers or concepts about print. Three of the five series addressed syntactic and phonological differences and similarities. Two addressed varying levels of language proficiency, but only one addressed cross-language transfer and L2 acquisition theory. Other features mentioned across grade levels and series, but not discussed in any depth, were sociolinguistics styles, orthographic differences and similarities, productive and receptive language competency, and differences in background knowledge.

We have chosen to focus our discussion on the supplementary handbook that covered the most unique features. This handbook was divided into two parts. The first half provided general information about L2 learners and L2 literacy acquisition. The second half presented information specific to the basal stories. The general information included a transferability chart that indicated which written and oral skills, including comprehension skills such as predicting, learned in L1 need not be relearned in English. Strategies such as teaching vocabulary using concrete objects or pictures also were presented. However, a major problem with the transferability chart was that six of the seven decoding skills were listed as "incomplete transfer." This contradicts current research, which indicates that when L2 students can map sounds to symbols in their native language, they can transfer this knowledge, at least at an intuitive level, to English reading (Downing, 1986; Durgunoglu, Nagy, & Hancin, 1991).

Of the 52 pages in the supplementary handbook, 27 were devoted to phonics and structural analyses. Heading this section was the following directive: "The development of oral vocabulary is of utmost importance for LEP students to enhance their comprehension of written English." An instructional example illustrates the unwarranted importance attached to oral development:

> Some LEP students, including speakers of Chinese, Arabic, German, Samoan, and Thai, have difficulty differentiating /w/ as in wet from /v/ as in van. These students need much practice producing the sound /w/ in order to avoid confusing it with the sound /v/.

The series erroneously told teachers that L2 students' English language and literacy development depend on the correct oral production of English phonemes, vocabulary, and syntax. The assumption that L2 students need to be fluent English speakers in order to read seemingly contradicts the transferability chart.

The last half of the handbook appeared to be helpful to all readers and not unique to L2 readers. For example, relating students' experiences to the story is beneficial to all learners. The instructional suggestions in the cooperative learning section, such as pantomiming morning routines, role playing, and using pictures to develop concepts, were more helpful. However, the placement of this material in the handbook apart from the manual might result in teachers using these suggestions only with L2 students, isolating them from their English-speaking counterparts.

SUMMARY

The changing demographics of American schools and the limited funding of bilingual education and ESL programs make it imperative for mainstream teachers to become more informed about L2 children and L2 literacy development. Our analysis suggests that mainstream teachers who diligently read the L2 articles would know more about L2 students and their literacy development than teachers who read the basal reading series materials. On the other hand, neither the reading journals nor the basal reading series provide sufficient information about L2 literacy development for mainstream teachers to promote the literacy development of L2 students at the first-, fourth-, or sixth-grade levels. Each of these grade levels poses different questions and problems that mainstream teachers need to address if they are to serve the instructional needs of L2 children.

Although journal editorial boards may point out that they do not control who submits the types of articles that are published, it is important to note that journals can be an important source of information for educators, researchers, and policy-makers. The types of articles included help to legitimize the importance of particular types of information and research. Similarly, if basal reading series claim to present all the information that mainstream teachers need to know to plan instruction for *all* their students, then they are misleading the purchasers of their materials.

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MEI: LEARNING THE LITERACY CULTURE IN AN URBAN ELEMENTARY SCHOOL

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Today's elementary classrooms are characterized by diverse groups of students who reflect a range of cultures and home languages. Estimates of the numbers of such students in American classrooms range from one million to over three million, reflecting a significant number of students that come from language backgrounds other than English (Garcia, 1990). This population is likely to increase steadily, which calls for changes in many present educational practices in the United States to better meet the needs of all students. This paper describes Mei, a second language learner from Vietnam, and her participation in a literature-based reading instructional program, Book Club (see McMahon & Raphael, in press; Raphael et al., 1992). Broadly, we were interested in Mei's developing proficiency with English during her first 3 years in the American educational system. More specifically, through the study of her experiences, we examined the potential of a literature-based reading program to provide an authentic and natural environment for the development of academic discourse for second-language learners like Mei. In conducting this case study, we were informed by research and scholarly discussions of second-language learners, current theories of learning and development, and trends in literacy curriculum and instruction.

Background of the Study

Exploration of language education programs for second-language learners (e.g., Chamot & O'Malley, 1986) suggests that effective learning of a second language is best accomplished when natural interactions are stressed, rather than formal instruction of linguistics structures through drills, memorization, and teaching grammatical rules (Garcia, 1990). However, natural interactions alone may not be sufficient for helping these students become facile with the academic discourse that is central to success in school. Cummins (1984) argues that there are significant differences in the communication skills represented by informal face-to-face interactions and those of academic talk. Informal interaction tends to be highly context-embedded (e.g., gestures, nuances of voice), whereas the academic discourse, especially by the upper elementary grades, tends to be both context-reduced and more cognitively demanding (Collier, 1989). Therefore, there is a need for educators to merge opportunities for natural interactions with appropriate instruction for effective interaction in academic contexts.

Recently, scholars have stressed the value of social constructivist theories in examining literacy instruction for diverse learners (e.g., Tharp & Gallimore, 1988;

Gavelek, 1986; Hiebert, 1991). Three assumptions underlie such theories of learning: (a) knowledge is constructed through the interactions among individuals within the sociocultural environment; (b) higher mental functions such as those involved in reading, writing, and academic discourse are both social and cultural in nature; and (c) learning is facilitated through the assistance of more knowledgeable members of the community and culture. This perspective is critical when examining diverse learners and the range of cultural, ethnic, and language backgrounds they bring to the classroom and literacy learning; as well as the potential of a reading program that has at its core, the opportunities for diverse groups of students to work together to construct meaning for the texts they have read.

Recent emphasis on discussion groups during reading instruction provide alternative settings for diverse learners with differing language backgrounds to engage in one form of academic discourse as equals, as they talk about the books they have read. These new contexts for reading instruction encourage students to engage in discourse about text, the academic basis for school learning. Eeds and Wells (1989) detailed fifth- and sixth-grade students' success within teacher-led groups as they maintained conversations, showed literature comprehension and interpretative abilities, and evaluated the quality of the literature selections. In a case study of a fifth-grade student participating in student-led discussion groups, McMahon, Pardo, & Raphael (1991) detailed the role of the students' cultural background, prior knowledge and interests, and specific concepts related to the theme of the books read. These settings provide a context to encourage students' development of both efferent and affective response to literature through social interaction, response that can be eventually internalized as individual transaction with text.

Yet, as Penfield (1987) notes, regular education teachers have little experience working with language-minority students and are often uncertain about how to integrate these students into their ongoing academic activities, and may, in fact, deny them access to the very contexts that they need. This case study provides insights into how a second-language learner like Mei learns to participate in a literature-based reading program and eventually to assume a leadership role with her peers.

THE CONTEXT AND METHODS OF THE STUDY

The context in which this case study developed was an urban neighborhood K–5 school in large midwestern city district. The school has a diverse student population in a low-income community suffering from many of the problems typical of larger urban areas: transience, drugs, and related high percentage of student turnover in the school, high proportion of single-parent families affected by increasing unemployment within the state, and so forth. Mei was a member of Ms. Pardo's classroom in third and fifth grades, and Ms. Woodman's in fourth. She was bussed to a bilingual program for half days during third and fourth grades.

The Reading Program: Book Club

Mei's reading program was literature-based in all three grades. However, Ms. Pardo noted that the third-grade reading program was more similar to one structured around a basal reader than Book Club, the program that Mei experienced in fourth and fifth grades. Book Club fostered several goals of literacy instruction consistent with the tenets of social constructivism and focused on changing the conventions of current instructional practices: (a) promoting students' understanding, enjoyment, and choice to engage in literary activities; (b) helping students learn to acquire, synthesize, and evaluate information from text; and (c) helping students develop a language to talk about literacy.

Book Club's components included reading, writing, discussion, and instruction, structured to support students' learning to engage in discussions about texts. At the core of the program were the student-led discussion groups, Book Clubs, from which the program takes its name. Supporting students' ability to participate in Book Clubs are reading activities (e.g., silent, paired, choral), writing activities that support preparation for and reflection upon the Book Club discussions, and whole-class discussions (i.e., Community Share) that led into and/or provided follow-up after the Book Clubs. Instruction was designed to help students with the skills critical to reading, writing, small- and large-group discussion, and ranged from activities such as comprehension strategy instruction (e.g., mapping, sequencing) to instruction in small- and large-group discussion strategies.

The Participant

Mei was born May 15, 1980, in Ho Chi Minh City, Vietnam, the youngest of four children. She lives with her mother and three brothers; her father remains in Vietnam. Mei's path to the United States involved a week in Thailand, 6 months in the Philippines, brief stays in California and New York City, then settling in Michigan.

Mei was in Vietnam for first and second grades before beginning third grade in the United States. She attended English classes for 5 months while in the Philippines and continued English instruction during third and fourth grades. Her first- and second-grade classes in Vietnam were large. Lectures, copying, memorization, and recitation were the primary instructional structures, with little peer interaction. Mei was first taught the Vietnamese alphabet, then words, and eventually reading connected text. Although Mei still speaks Vietnamese and can read letters from friends and family in Vietnam, she cannot write in Vietnamese. In the third- and fourth-grade bilingual program, Mei's teachers typically used thematic units to help Mei and her classmates learn to read, write, speak, and listen in English. Though instruction was in English, a paraprofessional who worked with Mei spoke Vietnamese. Mei's standardized scores placed her on the borderline for continuation of the bilingual program in fifth grade, but her desire to discontinue was supported by her bilingual instructors, based on Mei's motivation and successes in her fourth-grade classroom.

Data Sources

We collected information about Mei from third through fifth grades using several data sources: reading logs; journal entries; audio- and video-tapes of Mei's Book Clubs; videotapes of whole-class discussions; field notes; transcripts of Book Clubs; and interviews with Mei, her classroom teachers, her family, her ESL teachers, and the United Catholic Conference (Mei's family's sponsoring agency). Most data were from

Mei's fourth- and fifth-grade reading program. For this paper we focus on the data sources related to Mei's oral language use during Book Club discussions, using three representative Book Clubs: winter, fourth grade (December 12, 1990); fall, fifth grade (October 23, 1991); and spring, fifth grade (June 3, 1992). This focus provided insights into Mei's use of academic discourse and the social interactions that supported her comprehension of and response to literature.

Procedures

To select three target Book Clubs that were representative of the entire data set, we followed qualitative procedures recommended by Bogdan and Biklen (1992) and Hammersley and Atkinson (1983). Three of the criteria we considered were: (a) the dimensions of time, people, and context varied in systematic ways across the three discussions; (b) the discussions were representative (e.g. length, Mei's role, lesson sequence) for their respective time periods; and (c) multiple data sources were available for triangulation of data. Once we selected our target Book Clubs, we engaged in a two-stage process to analyze the selected data. First, we systematically searched through the documentation individually to determine relevant data and to catalogue the data in terms of the emerging patterns. Second, we collaboratively discussed our individual analyses and brought separate issues to consensus. In addition to continued (re)reading of the three transcripts, each was analyzed in terms of : (a) the number of times each student initiated a new topic, (b) the nature of peers' responses to initiated topics, (c) the total number of "contributions" (i.e., turns to speak) within each Book Club, and (d) the nature of purposes of each "conversational exchange" (i.e., the total contributions within the same topic or focus).

RESULTS AND DISCUSSION: TWO PRIMARY THEMES

We used the broad lens of examining Mei's oral-language use within the context of Book Club discussions about literature to learn both about her development as an English language user, as well as how the Book Club context supported this development. Two themes emerged from the data: (a) changes in Mei's general participation in her Book Clubs and (b) changes in the substantive features of Mei's discourse.

Changes in Mei's General Participation Over Time

We noticed two trends in Mei's general participation over time, one of increased amounts, the second, of increased self-confidence. The amount of Mei's participation in her Book Clubs increased from a fifth of the overall contributions in her fourth-grade four-member Book Club, to a third of the overall contributions in her five-member Book Club during the spring of fifth grade. In addition to the significant increase in the overall percent of changes in Mei's contributions, the number of her individual exchanges increased from 21 to 94 over the three target book clubs.

The social constructivist perspective underlying this study suggests that cognitive abilities fundamental to participating successfully in these discussions are social and cultural in nature. Mei's early schooling helped her develop skills more related to passive reception of ideas (e.g., copying from the board, memorizing presented ideas) than those basic to the interactive nature of a nontraditional reading program. Mei had to learn not only to read, write, and discuss using English, but how to do so in a culture that was in stark contrast to the culture of school in which she began. Her experiences as a member of a student-led discussion group provided a context for assuming an active role in the process of learning to use academic discourse about text.

We also noticed an increase in Mei's self-confidence, in terms of increased initiations of new topics and persistence in getting her topics discussed by her peers. In the fourth-grade winter Book Club, she initiated new topics four times, yet her peers responded to only two. In both cases the response was a simple acknowledgement that she had spoken or a brief comment. Similarly, in the fifth-grade fall Book Club, she initiated new topics five times, with only three eliciting any response, and in each case a simple comment from the same peer. In contrast, in the spring, fifth-grade discussion, Mei initiated new topics of conversation eight times and her peers responded immediately to six of these topic initiations with responses that extended the groups' conversation. Further, on one occasion when the group did not respond to Mei's initial attempt, she reintroduced the same topic later in the Book Club and it was discussed at length. The other time that the group did not respond to her topic, Andy had asked her to respond to a different question, which she answered.

Her ability to gain the floor seemed partially due to increased self-confidence as she persisted in making her point or asking her question during Book Club discussions. Gaining the floor was challenging, especially when students were excited about the discussion. In Mei's earlier Book Clubs, if she did not get the floor on her first attempt, she gave up. However, by spring of fifth grade, she used a range of strategies to ensure the discussion of one of her topics. A character in the text, *Park's Quest* (Paterson, 1988), had called Vietnamese "killers," referring to his fathers's death in the Vietnam War. Not surprisingly, Mei wanted to talk about this and attempted to interrupt a conversation to ask her question. She was (appropriately) ignored, which earlier in the year would have silenced her. By this time in her Book Club experiences, instead she employed a range of strategies to obtain the floor. She initiated her intent with the statement, "I have a question," as two peers discussed another of the main characters. When Mei's comment elicited no response, she prefaced the same statement with a call for attention, "You guys." When the students continued without responding to her requests to ask a question, Mei used a third strategy, entering into overlapping speech, joining Jean on the words, "brother and sister." When the overlapping speech strategy did not help her to gain the floor, she used two other strategies: raising her voice, then a direct criticism, "Who's talking more!" Her comments drew Jason's support, "All right," and Andy's attention as he asked her how she would feel in one of the character's places.

Immediately after answering Andy's question above, Mei, who now had their attention, asked the group the question she had been trying to initiate, and her peers responded to her question.

Mei: You guys, I have a question. Did, did you think like when, when Park you know what he said, he said all, all of the Vietnamese people are the killers. How, how come they be friends with Thanh?

Jason: Dang man. [I would take that word back then.
Stark: [I'd be, I don't,
Mei: But, but he, he be friends with her like when, when he don't even know that, that is he, his sister.

This transcript segment illustrates her participation, specifically in terms of increased confidence and range of strategies that allow her to persist until she has her group's attention, which gives her control over the next topic.

Mei's increased participation and related strategy knowledge may have developed solely from maturation and practice. Alternatively, her development was facilitated through the assistance of more knowledgeable others, and influenced by social and cultural practices. In interviews and informal conversations, Mei described being unable to make herself understood when she spoke. Her beliefs were confirmed by experiences such as the time early in fifth grade when Stark made fun of her saying "golf," in place of "God." Yet, the social experiences Mei used to confirm her differences from her peers were supplanted over time as she learned from them strategies for developing her own public voice. The range of strategies for obtaining the floor were not part of the formal instruction of "how to share." Rather, these emerged over the course of the students' daily discussions. Mei learned to speak up, speak louder, use overlapping speech, and persist in asking questions she thought important; she learned through her interaction with peers the links between learning English words and the cultural norms of discourse with those words in talking about books.

In addition to peer interactions through Book Club discussions, Mei's teachers encouraged her participation. For example, after several months in fourth grade, Mei began to talk more in small groups, but rarely volunteered during whole class discussions. In a January, fourth-grade Book Club, Mei had begun to talk about her family's experience during and after the Vietnam War. Her peers were interested, asked many questions, and the discussion continued after other Book Club groups had ended. The other students drifted over to listen to Mei's group until she found herself talking in front of most of the students in her classroom. This was a positive experience on two levels. First, she was successful in directing her words to a general audience of listeners—making herself understood by many others. Second, she saw that her own knowledge and experiences were valued by and of interest to her peers. The effects of these efforts were seen in Mei's gradually increased participation in whole-class discussions.

Mrs. Pardo, Mei's fifth-grade teacher chose the book *Park's Quest* (Paterson, 1988) for the final Book Club selection in the fifth-grade Katherine Paterson unit, in part to further support Mei's participation. *Park's Quest* is the story of an 11-year-old boy, Park, his relationship to his Vietnamese half-sister, Thanh, and his quest for information about his father who had died in the Vietnam War. In an interview, Mrs. Pardo stated that she specifically chose *Park's Quest* because of Mei's Vietnamese background. The fact that *Park's Quest* is culturally consistent with Mei's background may have contributed to her motivation and self-confidence to engage more fully in Book Club discussions. However, Mei's increased participation in *Park's Quest* Book Club discussions cannot solely be attributed to the nature of the text because she also demonstrated increased participation and self-confidence in the Book Club discussions in other Paterson books read earlier in this unit.

Both teachers worked to insure that Mei had multiple opportunities to feel valued. The principle that learning is facilitated through more knowledgeable members of a community was often reflected in Mei's position as the less knowledgeable member. In both fourth and fifth grades, when a Vietnamese child with minimal listening and no speaking vocabulary in English entered Mei's classroom, Mei's teachers asked her to help. In this situation, Mei became the more knowledgeable other. These experiences provided Mei with tangible evidence of her continuing development and made clear her role as an integral part of the classroom culture and community.

Through formal instruction, informal "teachable moments," and extended opportunity to use strategies in academic conversations with peers, we saw changes over time in Mei's general participation as well as her confidence and persistence. Further changes appeared in the content of her conversation.

Changes in the Substantive Features of Mei's Discourse Over Time

Information about the substantive features of Mei's discourse derive from the analysis of the purposes of the conversational exchanges within each Book Club discussion. The changes in these features over time were shown in both the increased depth and level of Mei's comments. Most of Mei's comments in the winter of fourth grade (approximately 60%) were simple statements like "Yeah," or "I don't know," which nonetheless reflected growth from virtually no comments in third grade. By fall of fifth grade, these simple comments reduced to 30% of her contributions, a trend that continued throughout fifth grade as they dropped to 10%. This created changes in the content of her contributions.

The difference in the level and depth of Mei's comments is illustrated with a comparison between a segment of a transcript from winter of fourth grade and one from spring of fifth. In the fourth-grade segment, Mei and her peers compared and contrasted two different picture books based on the same folktale. Mei's initial comments are "Yeah," in response to two attempts on Leanne's part to elicit more information following Mei's statement that she thought the two books were alike. When Leanne persisted, asking her to identify specific parts where the two books were alike, Mei provided a list that she had taken from her reading log. When Eva challenged Mei, asking for more information, Mei summarized the story elements. In this example, Mei responded to her peers, but took little leadership to direct the conversation. Her strategies for discussion derive largely from responding with simple comments (i.e., "Yeah"), or reading or summarizing what she has written in her reading log.

Leanne: (Interrupting) So you thought this is just like the book *Weaving of the Dream.*
Mei: Yeah.
Leanne: Um, What parts were just like the *Weaving of the Dream*?
Mei: Yeah.
Leanne: What parts were,
Mei: Um/ that um/ that/ that um/ their mother have 2 sons, but they have different names and the red fairy married the youngest one.
Eva: What do you mean he went to go find the red fairies?
Mei: Um/ he/ he/ he um/ he said he saw them. Then he go and he saw that red

> fairy and she, he tell her that, that, that the story about his, his mother. Then she give her coins and then he get home and he tells about his mother. And um/ and they are married.

In contrast, in the spring of fifth grade, Mei and her peers were highly interactive as they attempt to clarify complicated family relationships crucial to plot comprehension, with Mei playing a leadership role directing the conversation and elaborating on students' comments, rather than relying on simple comments or reading from her log. The Book Club members were actively involved in developing their knowledge of complex relationships among the characters through their oral interaction.

Mei: We're not done. How come you're standing up? Um, does you think Thanh is going to get mad at him? Park, I mean at uncle Frank?
Stark: No.
Jason: I don't know. Uhhhhh,
Jean: I think uncle Frank wanted her to tell her.
Mei: Uh huh (negative). He, he don't even talk to Thanh about the, about the father, about her father though, and how could she even know and,
Jean: Her mother was going to. It said in the (Jean's turning pages flipping through the book),
Mei: But how come she know that, she know that it's her father then?
Jean: It, it says in here that her mother was going to tell her.
Stark: Do you think um that um, I think that Park's ma knows// but she didn't have the nerve to tell him.

Mei's contributions varied considerably. First, she issued an implicit command to one of her peers to stay with the group. Next, as Mei and her peers sorted through their understanding of the relationships between Park and Uncle Frank; Park and Thanh; and Park, Thanh, and their father, she offered a counterargument with supporting details (Uh huh . . . he don't even talk to Thanh . . . how could she even know). Finally, she issued a challenge, probing for more information, But how come she knows . . . ? to which both Jean and Stark respond.

The range of responses that Mei demonstrated during Book Club, like her more active participation, may have evolved from daily practice. Yet, Mei's contributions in both content and leadership reflected an internalization of norms and values integral to the specific culture of her Book Club classrooms, learned through social interaction with her peers and facilitated by the assistance of more knowledgeable members of the community and culture—whether peers or teachers, through modeling and formal instruction. Further, students knew that they had an authentic context in which their thinking and written work in their logs would become public, and that such thinking and writing "paid off" in more stimulating and useful Book Club discussions. Mei was not singled out as one who needed such support, but rather, was a member of a community of learners and teachers who relied on each other for new ideas, for guidance, and for support as they developed their literacy and discussion abilities.

CONCLUSION

In this study we sought to gain insights into Mei's development as a proficient user of English in her reading program and into Book Club as a context for second-language learners to engage in academic discourse related to literature. These were examined within a social constructivist perspective (see Gavelek, 1986; Tharp & Gallimore, 1988; Wertsch, 1985) thus exploring the ability of this perspective to account for patterns that emerged in this study.

Over a 3-year period, from not speaking in third-grade academic settings to minimal talk and risk-taking to participating as an active leader in peer group discussions, we saw that Mei's command over the Egnlish language and her public use of the language in academic settings greatly increased. We do not claim that this growth is solely attributable to Book Club. However, the results of the analysis of the three Book Club events, with supporting information from interviews, field notes, observations, and written work suggest that Book Club is a valuable social context for second language learners to experience meaningful and authentic opportunities to learn to use academic discourse to discuss texts. It provides a site where diverse students with differing levels of literacy and oracy abilities come together to construct meaning; where the social and cultural nature of higher mental functions such as summarizing, challenging, questioning, and so on is clear; and where it appears that learning to participate actively in the reading, writing, and discussion of literature is facilitated through the peers' interactions among themselves and with their teachers. The images that emerge from this analysis argue against learning as an isolated activity divorced from one's social and cultural background, developing as a result of the evolution of universal principles of discovery, or as a direct result of teaching specific but decontextualized skills.

Mei valued Book Club for its continuing and important role in helping her comprehend text. In interviews across fourth and fifth grades, she indicated that because she was not skilled in English, her Book Club peers were critical to her success in reading: "Well like, like when you're reading a book and I, and I'm starting with my Book Club group and sometimes, I don't even, I don't understand something, I could ask at my Book Club group and then they told me something that I should understand. So that's why I like book Club." Through her social interactions in Book Club, Mei was able to construct a sense of what it meant to comprehend. For Mei, this often meant selecting an issue from the text for transaction within her group. The groups' responses to her confirmed, elaborated, or altered her initial perspectives. Thus, she had a model of what could be internalized, not only in the process of comprehending, but in the more general thought processes involved in discourse about the texts she had read.

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LITERACY DEVELOPMENT OF TWO BILINGUAL, ETHNIC-MINORITY CHILDREN IN A KINDERGARTEN PROGRAM

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Peley (pseudonym), a child of Southeast Asian origins, and Raji (pseudonym), a child of Indian origins, provided the focus of this study in a suburban, central New York, elementary school. Both children were born in the United States and exposed to at least two languages since birth. Both children were required to function in two cultures, the home culture and school culture, and use their languages appropriately. Mrs. Starr (pseudonym), the children's tenured teacher, with 5 years of experience, expressed her thoughts about Peley and Raji during the first month of school:

> I'm worried about Peley and Raji. They're not making friends. They seem to be bright children but they rarely speak up in class discussions. Raji stands back and observes most class activities, while Peley criticizes any student near her. I'm worried about their learning in this program.

Mrs. Starr's kindergarten program emphasized literacy learning through social interactions. Mini-lessons and small-group activities were key components of her program. Reading, writing, listening, and speaking permeated kindergarten weekly thematic units. Children were encouraged to listen and talk to each other about home and school and share their ideas in classroom work and play settings. Mrs. Starr believed literacy was not simply reading and writing, but the meaning-making which comes from successful social interactions within the classroom. She considered literacy a social process related to community building (Bloome & Green, 1982). However, she did not see Peley and Raji experiencing the successful social interactions associated with the development of literacy learning in a classroom community. Therefore, her concerns about the children's literacy learning seemed relevant. The purpose of my ethnographic study was to observe Peley and Raji in the kindergarten classroom community as they interacted with students and staff to develop their English literacy.

Previous Research

It has been suggested that children who represent bilingual, ethnic-minority groups have great difficulty fitting into the context of American classrooms (Au & Mason, 1981; Trueba, Jacobs, & Kirton, 1990). Their struggles are believed to occur because they must function within at least two cultures as they develop their literacies (Cummins, 1986). Furthermore, sociolinguistic studies of bilingual ethnic-minority students reveal the lack of language competency in American school settings (Gumperz & Hymes, 1972; Kochman, 1983). Recently, sociocultural studies which focus on home and school connections for literacy learning have addressed the struggles of bilingual, ethnic-minority children (Goldenberg, 1987; Reyhner & Garcia, 1989). However, these studies have not focused on the early childhood school years when program emphasis is on literacy learning (Spodek, 1986; Teale & Martinez, 1989).

Peley and Raji struggled during their year in kindergarten as they developed their English literacy. Similar to the African-American children in Rist's *The Invisible Children* (1978), Peley and Raji struggled in the dominant classroom culture. Similar to the teacher in Kidder's *Among Schoolchildren* (1989), Mrs. Starr struggled to understand the children's literacy development. This ethnographic study contributes to our understanding of the importance of social interactions and home-school connections as two bilingual ethnic-minority children develop their English literacy in a kindergarten classroom community.

METHOD

Theoretical Framework and Data Collection

Symbolic interactionism served as the theoretical framework for this work based on the premise that the way people act depends on their interpretation of a situation and the meaning they give it. That meaning is derived from social interactions and modified through social process (Blumer, 1969). I became part of the kindergarten classroom environment and experienced "prolonged intense social interaction while collecting data systematically and unobtrusively in the form of field notes" (Bogdan, 1972). A year of participant observations took place at the school, two to three times a week during 3-hour sessions. Field notes were also recorded after each 2-to 3-hour visit in a child's home. In-depth, unstructured interviews of parents, educators, and the two children were included, as well as documents, such as student work, report cards, testing information, and classroom materials.

Data Analysis

Data analysis was ongoing and continuous, using the constant comparative methodology (Glaser, 1978). Data were read and reread for preliminary themes used in the analysis. As more data were considered, themes were refined to form the final coding categories. Recurring patterns offered explanations for these children's experiences which were grounded in the evidence (Glaser & Strauss, 1967) of their classroom world.

Results of this study demonstrated important struggles. Both children experienced few positive social interactions during classroom work and play settings. Both children misunderstood reading and writing activities during formal literacy learning sessions. Both children were confused during holidays and celebrations. Finally home-school communications were infrequent and unsatisfying.

RESULTS

Work and Play in Learning Centers

Children in this kindergarten worked and played in assigned learning centers consisting of five students whose membership changed to facilitate class social interactions. At each center group, tasks reflected the weekly theme of either a nursery rhyme or a letter of the alphabet. The following scenes, enacted at the block center, demonstrated Peley's and Raji's problems with social interactions:

Large and small blocks were used to build a structure for the weekly theme. Step-by-step directions were written on sheets of construction paper and posted on the side shelf of the center. A teaching assistant would read and explain the instructions. As Peley worked, she would yell the letter or shape. "This is a *Z*! See it!" She would also attempt to talk to the children in the group, "I saw you on the bus, Brian. Do you know me?" Brian would shake his head in the positive. Peley would persist, "Do you want to play peek?" She would then duck behind a wall of blocks and make loud sounds, "Yuck! Yuck! Heee! Heee!"

Jennifer, in an exasperated voice, would respond, "Peley, don't do that! It hurts my ears!" Often the children would ignore Peley's antics; they would be absorbed in their own building.

Peley would then complain of a pain. "My leg hurts! OOooh! My leg hurts. I don't feel good! I hurt!" Mrs. Starr would arrive on the scene and ask Peley if she would like to go to the nurse. Peley would reply in the negative, with an emphatic shake of the head, and continue watching the children build.

When Raji entered the block center, he would head for the big blocks, carry one under each arm, and softly say, "Look, I am strong! I am a strong man." No one in the group would comment. He would begin building his own structure and then attempt to join the group by adding a block to their building.

The group rebuff would be immediate. "Don't put it there. It doesn't belong!" or "That's a road, not a door!" or "Put your blocks away!" Raji would return to his own building.

Raji and Peley were involved in similar scenes in all centers throughout the school year.

Friendships. During December, Peley became friendly with Annie, a child who cried and laughed easily. When given an opportunity to choose someone to work or play with in centers, Peley began selecting Annie. "Will you be my friend? I want to sit with you. I will call you on the phone. Give me your numbers." Peley tried calling Annie, but copied the nine as a six and was unable to reach Annie by phone. By January, Mrs. Starr placed Peley and Annie in learning centers together. However, the relationship soured when Annie was invited to a classmate's birthday party and Peley was not. Upon discovery, Peley could not be comforted. With tears and anger, she screamed, "Jeanie took my friend from me! She took my friend!" For the rest of the morning, Peley sat with frowning face and arms folded against her chest. She refused to do her work and told Mrs. Starr, "I'm sick!"

Peley spent most of the rest of the year either alone, or paired with someone the teacher suggested.

As the school year ended, Raji would sit next to Peley or Jerry. Raji wrote Peley's name in his Kindergarten Yearbook as his school helper. He also stated, "Jerry is my friend. He doesn't say mean things to me."

During most of the year, neither Peley nor Raji seemed able to gain entry into a group, whereas the other children in the class seemed to experience consistent positive social interactions. Peley's and Raji's literacy development was thwarted in these settings, since they were unable to share ideas or activities.

Formal Literacy Learning

Formal literacy learning for Peley and Raji was within the school's understanding of "normal" for this kindergarten program, but oral directions, sequence relationships, vocabulary knowledge, and idiomatic expressions were problematic for them. Also, Southeast Asian and Indian cultures were not addressed; related materials were not in the classroom.

Reading group. Peley and Raji were placed in the top kindergarten reading group consisting of 16 children. However, Peley and Raji left the group twice a week for ESL classes and were rarely present for a complete reading lesson, which usually took 2 to 3 days to accomplish. Consequently, they would become confused with many workbook exercises.

Story writing. Peley and Raji had many opportunities to write stories and experiment with invented spelling in the kindergarten writing-to-read program. In the spring, Peley began sharing stories and became the class comedienne by making fun of herself. The following is an example of her story writing:

> I can say this Me and My big mouth aint I a stinky and I can say Mom I love you varry much I love you to much that I cood screem varry loud.

The class would laugh with delight when Peley read her stories. She continued the theme of "stinker and big mouth."

Raji visited his relatives in India during December and January. When he returned, Mrs. Starr guided his story writing at the computer station. She helped him type sentences about India. She cut his story into strips of words and taped each to a page in a stapled booklet. Raji drew magic marker pictures on the pages and shared it with the class. Mrs. Starr helped him read his story:

> India
> It is hot in India.
> Santimz in India it is cold.
> I nevr so sno in India.

After the reading, no comments or questions followed from the class. Raji seldom wrote or shared stories for the rest of the year.

According to Mrs. Starr's judgment and formal assessments, Peley met with greater success than Raji in the formal literacy program. However, both children lost continuity in group membership and literacy learning lessons due to the exclusive ESL program. Also, neither child's home cultural experiences were included in literacy learning materials or activities for classroom community building.

Holidays and Classroom Celebrations

Several holidays and classroom festivities seemed to accentuate the children's struggles to function successfully in the school culture.

For Halloween, Peley colored her face red, wore a molded plastic, blonde, princess mask and called herself "Barbie Doll." After the Thanksgiving story, her classmates drew turkeys, Pilgrims, and Native Americans, while she drew herself. When making Christmas gifts, her classmates imprinted hands in white paste for their parents while she hid behind a "big book." On her birthday, the expected treats for the class did not arrive from home. For Easter, she colored a green-and-red rabbit and wrote about falling leaves. Peley was often visibly confused during special school events. Raji experienced similar confusions. This was especially true during holiday celebrations.

After the Thanksgiving story, Raji drew fish. His classmates ridiculed, "Yuck! You eat fish for Thanksgiving? That's funny!" Raji was the only child absent for Valentine's Day and the only child not wearing green on St. Patrick's Day. On Marvelous Mother's Day, he was the only child who did not speak for his mother. For Easter, he colored an orange rabbit and wrote about eating too many eggs.

Mrs. Starr observed the children's confusions and commented, "At times, Peley and Raji seem lost." The holidays and classroom celebrations of the dominant school culture were puzzling to Peley and Raji. Again they did not fit into the classroom community; their social interactions were awkward. They did not seem to understand the meaning of events and could not seem to communicate effectively. As a result, their literacy learning often suffered.

Home-School Communications

The kindergarten staff was proud of their communication with parents. However, Mrs. Starr struggled to communicate with Peley's and Raji's families; the families struggled too.

Family communication with the school. Family communication difficulties were manifested in misunderstandings about the ESL program and their children's social interactions.

Both families saw the ESL class as important to the children's literacy learning. Peley's parents knew she did not like going, but they believed it was necessary for her academic progress. Raji's parents thought ESL class was important until they discovered that Raji had been leaving the reading group to go to ESL twice a week. They believed Raji should not miss classes, but they did not question the school.

Similarly, social interactions were not addressed by the families. At the beginning of the school year, Peley's mother spoke about Peley wanting a school friend. She wondered:

> Peley want friend. How she have friend? We have custom. They have custom different. Peley don't understand. I don't know people. My English not good.

Peley's mother wanted to help Peley, but she seemed unable to communicate her concerns to the school.

When Raji returned from India, he arrived in school as a boisterous, verbal and smiling child, different from the reserved demeanor witnessed in the fall. However, within a few weeks, he withdrew to his lonely self. His parents saw the changes, but did not know how to communicate with the school.

School communication with the families. Language in written and oral communication seemed to hinder connections with the children's parents. Mrs. Starr did not communicate her concerns to the parents because she believed they might not understand. Mrs. Starr explained, "I just don't know how to tell them." She also had difficulty communicating with Peley's parents. She believed their English was limited; they rarely spoke to her and usually smiled and nodded whenever she spoke. They also missed many school activities or arrived hours or days late.

Although other children's parents were contacted when the kindergarten staff perceived social, emotional or academic problems, Peley's and Raji's parents were not contacted about their children's social or academic problems. Even though it was believed that both children might have difficulties maintaining their English literacy learning during the summer. Mrs. Starr waited until the end of the school year to inform Raji's parents of literacy learning concerns. At that time she recommended the summer literacy maintenance program. Peley's parents were not notified. Mrs. Starr spoke directly to Peley and encouraged her to read books and join a summer day camp. Because home-school communication was weak, the children's English literacy learning problems were ignored.

DISCUSSION AND IMPLICATIONS

The purpose of this ethnographic study was to observe Peley and Raji as they interacted with students and staff to develop their English literacy in a kindergarten classroom community. This study contributes to our understanding of bilingual, ethnic-minority literacy development and its relationship to classroom social interactions and home-school connections.

Literacy learning in this kindergarten program was synonymous with classroom social interactions. Small-group and whole-class work and play settings integrated reading, writing, listening, and speaking. However, Peley and Raji struggled in small- and large-group work and play settings. They were visibly confused during classroom celebrations and holiday festivities. Home-school communication was rare and did not allow parents and school to confront the two children's literacy learning needs.

Sociocultural studies emphasize connecting the home and school cultures for literacy learning (Goldenberg, 1987; Trueba, Jacobs, & Kirton, 1990). Mrs. Starr was confused about Peley's and Raji's social interactions and was unaware of the children's home cultures. The inadequate home-school communication contributed to the children's struggles.

The Civil Rights Movement, and more recently, the influx of Cambodian, Vietnamese, Haitian, and Cuban refugees have caused national attention to focus on cultural diversity (Kiefer & DeStefano, 1985), rather than assimilation or cultural blending (Porter, 1990). Peley and Raji struggled in their attempts to blend into the classroom culture, but they were perceived as social and academic problems. Since school drop-out rates for bilingual ethnic-minorities are associated with the assimilation or cultural blending perspective (Weber, 1990; Mill, 1992), this study implies that early childhood classrooms should adopt the additive (Cummins, 1986) or diversity perspective. The additive or diversity perspective would have celebrated Peley's and Raji's cultures in the classroom through multicultural literacy learning strategies (Au, 1993; Nieto, 1992). Finally, teacher preparation programs and educators must become aware of the means to enhance the literacy development of bilingual, ethnic-minority students, the fastest growing school population (Garcia, 1986; Trueba, Jacobs, & Kirton, 1990).

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DISPELLING THE MYTHS: FOCUSING ON THE LITERACY DEVELOPMENT OF CHILDREN PRENATALLY EXPOSED TO CRACK/COCAINE

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The images of newborns who were prenatally exposed to crack/cocaine are often directly connected to young school-age children who are experiencing difficulty in the classroom. The media has helped build these perceived causal connections (*New York Post,* May 8–11, 1990 & *Washington Post,* September 17, 1989). When asked about the school behavior of children who have been exposed to crack or cocaine, most teachers, parents, and other interested individuals immediately state that they will be out of control, posing real difficulty for teachers and other students in the classroom. Are these expectations realities, or are they myths perpetuated by the media and uninformed adults? This question grounds a 7-year longitudinal study which focuses on the literacy development of children prenatally exposed to crack/cocaine.

What We Do Know

We know that approximately 500,000 to 700,000 newborns are born annually exposed to illicit drugs. About 350,000 of these children have been identified as exposed to crack/cocaine (Hodgkinson, 1991). Describing a particular drug that a pregnant mother may have used poses difficulty, however. For instance, most women who use drugs also smoke or drink and/or use other drugs if their preferred drug is not available.

We know that some risk factors to the infant who has been prenatally exposed to crack/cocaine are: prematurity, low birth weight, abruptio placentae (placenta separates from the wall of the uterus, cutting off oxygen to the newborn), congenital malformations such as anomalies of the kidneys, intestines, or limb deformities, sexually transmitted diseases, and smaller head circumference (Chasnoff, 1992). When the child is born, he or she will suffer through withdrawal from the drug's use. These newborns often cry excessively, have tremors, sweat, and experience gastrointestinal upsets (Chasnoff, 1988a). Although researchers have provided rich descriptions of infants prenatally exposed to drugs, few studies have systematically studied these children as they move from infancy to school. One notable exception is the work being done by the National Association for Perinatal Addiction Research and Education (NAPARE). The NAPARE group is conducting a long-term study of 300 cocaine-exposed children (Chasnoff, 1992; Griffith, 1992). The intent of this study is to document physical, emotional, and cognitive development of these children for at least 5 years. Chasnoff (1992) has determined from his observations that "many drug-exposed children are more like drug-free children than they are different" (p. 2). He goes on to say that "[a]t two, three and four years of age, we are finding that 60 percent of the children show no mental or behavioral deficits. Nearly all the children in the project test within the normal range cognitively" (p. 2). For the 30–40% that show developmental difficulties, most of these can be classified as attention, self-regulation, and behavior and language delays. Chasnoff emphasizes that although these children are experiencing delays, they are making progress in their development.

What We Do Not Know

We do not know exactly what the intellectual implications will be for the physical characteristic of smaller head circumference of children prenatally exposed to crack/cocaine. The NAPARE group is still trying to tease out the smaller head circumference effect. Interestingly, they have discovered that women who receive drug treatment while pregnant have children who are healthier, have larger birth weights, and have greater head circumference (NAPARE Annual Report, 1991).

We do not know how the specific characteristic of head circumference will affect school performance; and beyond the focus on this single characteristic, there is little research that directly investigates how these children will perform in school. The findings from this area of the research on children prenatally exposed to crack/cocaine can be classified as murky at best. Cohen (1990) reports that children exposed to crack or cocaine in utero may have developmental delays, learning disabilities, and/or hyperactive behavior. Rist (1990), Chasnoff (1992), and Griffith (1992) caution that these children are individuals; and as such, there will be a continuum of educational support required for them from no special intervention to intensive special education support. Presently, no clear picture of how these children will perform in school can be detailed from the research evidence (Chasnoff 1988b).

STUDYING THE LITERACY DEVELOPMENT OF CHILDREN EXPOSED TO CRACK/COCAINE

Grounded in the research which describes the behaviors of infants who were prenatally exposed to crack/cocaine, I have initiated a 7-year longitudinal study which focuses on the literacy development of 26 children who were prenatally exposed to crack/cocaine. I am seeking evidence which describes how these children perform in school, especially with respect to literacy.

The State Welfare system has identified the children for this study. Each child had a positive urine toxicology at birth which indicates crack/cocaine exposure shortly before delivery. In addition to the prenatal drug exposure, each child is in a stable foster care or adoptive situation. The stable home situation is critical to this study as I want to document literacy behavior that is not hampered due to movement from one foster care placement to another. However, even though these children are presently in stable situations, the majority are in foster care placements which can change.

Many of these homes are located in the lower income, urban areas of the city which experience the effects of gangs, drug use, and drive-by shootings.

The study began in the fall of 1990 with interviews of the parents in their homes and informal observations of the child's literacy. All permissions for observation were secured from the parents, local school district, the State Welfare system, and the State Attorney General.

The study is organized so that each child is observed monthly either at home or at school. The duration of each observation is an hour to an hour and a half. My role in these observations is usually that of a participant observer.

The Children

In the fall of 1990 there were 17 boys and 9 girls in the study. The racial composition consisted of 16 African-American, 5 Bi-Racial, and 4 Caucasian children. At the inception of the study, the children ranged in age from 18 months to 7 years of age, with the majority of the children being 3- and 4-year-olds. Twenty children were in foster care and 6 were in adoptive situations. Sixteen of the children were full-term newborns and 10 were born prematurely. The goal of the study was to include only 3- and 4-year-olds, but because of the limitations for the selection of children mentioned above, the age parameters were expanded.

During the second year (August 1991–July 1992), 3 of the 4-year-olds were adopted out of state. One new child, a 2-year-old was added to the study. He was the foster brother of another child already in the study. Although he was formally included in the study during the second year, I had observed him from the beginning of the study. The racial make-up of this group changed slightly during the second year: 13 children were African-Americans, 5 children were Bi-Racial, and 6 children were Caucasian. Seventeen children were in foster homes and 6 were in adoptive situations. Fourteen children were full-term newborns and 10 were premature.

Literacy Observations

During each monthly school or home observation, all events were recorded; however, certain literacy behaviors were targeted for observation. These targeted behaviors provided for continuity across observations of a single child and provided information to compare observations of different children. The targeted behaviors included drawing, name writing, storybook reading, concepts of print, concept of word-in-print, and orthographic knowledge.

Drawing and name writing. During all observations in the home and during many of the in-school observations, the children were asked to draw a self-portrait. These drawing events allowed the child to feel comfortable and provided a context for the children to engage in informal talk about themselves, their family, and school. At the completion of drawing, the children were asked to sign their work. These signatures were particularly important for the younger children as they indicated when these children recognized the differences between drawing and writing (Harste, Woodward, & Burke, 1984). On several occasions, these drawings served as the stimulus for dictated accounts or for a child's self-written story.

Storybook reading. Each time a child engaged in the reading of a book, observations were made of the interaction based on the work of Sulzby (1985). These storybook reading behaviors varied from attending to the pictures and not forming a story, Sulzby's least sophisticated category, to using "book" language, and finally to the conventional reading of a story.

Concepts of print. When a child interacted with a book, specific behaviors were noted. I observed if the child recognized the front and back of a book, identified the top and bottom of a page, or recognized the print on a page. Similar behaviors were noted when a child wrote; for example, I observed if the child wrote in a linear fashion (Clay, 1975; Harste, Woodward, & Burke, 1984).

Concept of word-in-print. As the children began to read predictable text, I asked them to point to the words in print as they read. Through this pointing, I determined their proficiency at the speech-print match (Morris, 1983). I also noted in their writing behavior when they began to put periods, lines, or leave spaces between the words that they were writing.

Orthographic knowledge. When the children wrote about their pictures, wrote in journals, or spelled words, I noted their orthographic knowledge through the way that they represented words. I observed as they represented words through scribbles, initial and final consonants, and then to more conventional spellings. (For details on this development, see Henderson & Templeton, 1986; Henderson, 1991; Templeton, 1991).

The Underlying Framework for the Comparison of Literacy Observations

The goal of this longitudinal study is to focus on the general patterns of literacy development of this group of children. I am not seeking to narrowly define literacy development through the use of grade-level parameters. As a result, I have defined three broad categories of literacy development (Barone, 1993). The first category is representative of children who are "getting the idea of reading and writing." Usually these children are preschoolers or kindergartners. Children in this category often pretend to read when asked to read and when writing they represent ideas through scribbles or random letter or numerals. The children's drawings move from scribbles to recognizable figures; and their names begin to be written consistently in a standard fashion.

During the first year of the study, this category was subdivided because of the large number of preschoolers and kindergartners. One group consisted of 1- and 2-year-olds. These children were expected to scribble when asked to draw or write. The expectation for reading was that these children would be able to listen to stories and engage in labeling of illustrations. The 3- and 4-year-olds were expected to begin to draw recognizable figures, write their names consistently, and use "storytelling" and "book" language when reading a story.

The second major category focuses on children who are considered to be "beginning readers and writers." Usually these children are in kindergarten and first grade. These children draw recognizable figures which often become very detailed, and their names are most often written conventionally. The children understand the conventions of books and either have developed concept-of-word or have a rudimentary understanding of this concept. When reading, these children are able to memorize predictable text and to read nonmemorized text in a word-by-word fashion. In writing, these children represent the initial and final consonants in words. Some of these children can also represent the vowel, although the vowels are often confused (for example, *bed* spelled as *BAD*).

The third category includes children who are considered to be "fluent readers and writers." In general, these children are in second to fifth grades. Fluent readers and writers can read most fiction and nonfiction materials and understand the content at the same time. When writing, they do so easily, selecting genres that seem most appropriate for their purpose. When focusing on words, these children represent most short- and long-vowel single-syllable words correctly. Difficulty for these children appears when they represent multisyllabic words.

LITERACY OBSERVATIONS FROM YEARS 1 AND 2

Year 1 (August 1990–July 1991)

At the conclusion of the first year, the children were all found to be within the parameters of literacy development established in this study. Not one child developed into the "behavioral monster" that is often portrayed in the media. Explanations for this success included the stable family situation (Weston, Ivins, Zuckerman, Jones, & Lopez, 1989), early intervention for many of the children (Chasnoff, 1992), and the resiliency of the children (Werner, 1982). There were two major concerns at the end of this initial year. The first was the difficulty with inferential comprehension demonstrated by Loren, one of the children in the study. The second concern focused on the special education placement of so many of the children in the study (10 children) (Barone, 1993).

The following descriptions provide a clearer picture of the literacy development of children in the various categories at the conclusion of the first year:

One- and two-year-olds. The five children in the group of 1- and 2-year-olds were all observed in their homes each month. All of the children in this group met the expectations of "getting the idea" as readers and writers. They enjoyed listening to stories and making comments about the illustrations. they scribbled when asked to draw or write. One child in this grouping, Becky, had even distinguished the difference between writing and drawing.

Three- and four-year-olds. Of the sixteen 3- and 4-year-olds, 12 were in preschool. The 4 children who were not enrolled in school were observed in their homes. This group was the most varied in literacy development. All of the children discovered the differences between drawing and writing. Five children scribbled when requested to draw, however, they always labeled their drawings. Two children wrote words beyond their own name. And six children represented words by using the initial consonant.

The children enjoyed being read to. Only one child, Jamal, still found it impossible to listen to a whole story. Five children in this group read stories by telling about the illustrations on each page. The other children in this grouping read stories by using "book" language predominantly. Several of the 4-year-olds refused to read stories. They vehemently stated that "They did not know how to read!" Two of the 4-year-olds were able to read memorized predictable text. As they read they tracked the text, indicating that they had developed concept-of-word.

Kindergarten. Four children were in kindergarten. Three were in classrooms that had ratios of 15 children to one teacher. The final kindergartner was in a special education classroom with four other children. Lakisha, the child in the special education kindergarten, was the most immature in development. She was able to draw identifiable figures and to write her name consistently. Lakisha enjoyed listening to stories but rarely interacted in discussion about stories that was initiated by her teacher.

All of the other kindergartners were able to memorize predictable text. When they wrote words or stories, they represented the initial and final consonants in words.

One second grader. Loren, the oldest child in the study, spent his class time both in special education and a regular education classroom. Loren was able to read material that was not predictable. The only concern with reading was that Loren found it difficult to inferentially understand stories. When writing stories or words, Loren was able to represent short-vowel single-syllable words but had some confusion when representing long vowels.

Year 2 (August 1991–July 1992)

Year 2 demonstrated that the majority of the children continued to develop within the literacy parameters established in the study. Three children experienced troublesome events that appeared to interfere with in-school learning. Melisha, a 5-year-old, was diagnosed with Soto syndrome, uncontrolled epilepsy, and precocious maturity. She was also molested in a temporary foster home situation. Dontay, a 6-year-old, was molested on the school bus and soon after this incident his behavior in school became very aggressive toward the teacher and other children. Because of this behavior, he was placed into a class for children labeled as emotionally disturbed. Josh, a 5-year-old, was placed into a classroom in a new school. His parents and teacher were upset that a school busing decision resulted in his new classroom assignment. Soon after his arrival in his new classroom, he behaved in inappropriate ways toward his teacher and other children in his classroom. These three children all experienced difficulties with literacy development shortly after the above-mentioned events occurred. This slowed literacy development continued to the end of the second year of observations.

In addition to these situations, two children were placed into new foster homes. These decisions were based on achieving homes for these children that represented their racial background. Immediately after the new placement, these children experienced adjustment to the new situation, which inhibited their literacy development for several months.

Following are descriptions of the literacy behaviors of each group of children during the second year of the study. The groups differ slightly in that the children are older and new more age-representative categories have been developed.

Two- and three-year-olds. Six children were in the 2- and 3-year-old age category. Chantilly, a 2-year-old, was the only child not to distinguish between scribbling and writing. Although the children did not include letters in their writing, they began to notice letters in alphabet books. They were particularly interested in discovering the letter at the beginning of their name. All of the children recognized frequently read books and selected them by title. In general, the children read stories by using "storytelling" and "book" language. Four of the children made personal connections to the stories. For example, Patrick wondered why there were no children in *Chicka, Chicka, Boom, Boom* by Bill Martin.

Four-year-olds. There were six 4-year-olds during the second year of the study. All of these children recognized the first letter of their name. Two of the children were able to write their names consistently. When these children wrote words or stories, three children scribbled and three children used initial and final consonants. When reading, the majority used "book" language in most situations. Only two children attempted to read when they had memorized a predictable text.

Five-year-olds. Seven children were in the 5-year-old grouping. Melisha, the child described above, still scribbled when writing. Two children were working on representing their names consistently. When these children wrote other words, they represented them by using the initial and final consonants. Four children had progressed beyond writing only their first name and could now write their last name. When writing other words, these children represented the initial and final consonants and the middle vowel.

In reading, only Melisha used "storytelling" and "book" language. The other children refused to read unless the text was a memorized predictable text. These children understood that reading had a lot to do with the words on the page.

Six-year-olds. Four of the children were 6-year-olds. These children had no difficulty representing their first and last names. Three of these children were similar to the 5-year-olds since, when they represented words, they used the initial and final consonants. One child was able to represent the vowel in single-syllable words, although the vowel was often confused.

Three of the children were classified as "beginning readers" in that they were easily able to memorize and read predictable text. When they attempted to read other stories, their reading slowed down and comprehension was limited unless the story was reread. Kevin had moved beyond the reliance on predictable text. He was able to comfortably read nonpredictable materials and comprehend on both a literal and inferential level.

One eight-year-old. Loren was in the third grade and was expected to read both fiction and nonfiction material. Loren was able to read this material. And unlike the previous year, he no longer had difficulty comprehending on an inferential level. When writing, Loren represented most single-syllable, short- and long-vowel words consistently.

CONCLUSION

Perhaps surprisingly at the end of 2 years of careful observation of literacy development, the children who were prenatally exposed to crack/cocaine are not much different from other children who were not exposed to these drugs. With support, they are becoming readers and writers in the same ways that most children do. All of the children are excited about books. They each have favorites and become upset if I have forgotten a special book when I visit their homes. In school, the children are within the norm for literacy development as demonstrated by the other children in their classrooms. For some of the children I have found this development surprising. Even though I have visited the children's classrooms when literacy activities are scheduled, in six classrooms, I have never seen the teacher read to the children. In these classrooms, as might be expected, there are no classroom libraries and children's books are not available. So how these children are becoming readers when they often have few books at home is interesting and a question that I will pursue as the study continues.

Some of the children have experienced difficulty this year and perhaps resemble the children predicted by the media. However, when other important events in their lives are investigated, their literacy behaviors are more easily understood and not unlike the behaviors that might be produced by other children experiencing similar circumstances.

Many of the children in this study parallel the children in the Chasnoff (1992) study in that they "are more like drug-free children than they are different" (p. 2). Those children who are fortunate enough to have a stable, emotionally supportive environment appear to be developing into literate individuals. The children who have experienced changes in home placements or other traumatic events in their lives seem to be set back in this development. Hopefully, these literacy delays will be temporary and diminish when the children adjust to or move beyond these events.

When the concerns from the first year are revisited, they seem to have dissipated. Loren, the child who experienced difficulty with inferential comprehension, is able to discuss stories and content material both literally and inferentially. The concern with the number of children in special education has not been totally alleviated but four of the children no longer require special education support. Although the children are qualifying for special education at very young ages, their special education teachers appear to be willing to reevaluate them and where appropriate dismiss them from these additional services in the primary grades.

As teachers, researchers, and parents move beyond the dire predictions of the media and carefully follow the development of children prenatally exposed to crack/cocaine, we discover that these children can learn and become literate individuals. The myths about these children need to be set aside, so that each child, not the prenatal experience with drugs, becomes the focus for teaching and learning.

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HOME CONTRIBUTIONS TO EARLY LANGUAGE AND LITERACY DEVELOPMENT

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One of the best-documented findings in education is the low success rate of children from low-income families in school compared to their middle-class peers, particularly in the areas of reading and writing (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, and York, 1966; National Assessment of Educational Progress, 1981, 1985). Early attempts to explain this disparity (Bernstein, 1962; Hess & Shipman, 1965) placed blame on the "restricted" sorts of language to which working-class children had access. Social class was a major determiner in development, according to these theorists.

A growing body of research in the area of literacy development has attempted to demonstrate that social class as a single variable is not specific enough to explain differences in language and literacy development, and has begun to show clear relationships between specific ways that parents talk to children and later developmental outcomes. This research often focuses on types of talk between adults and children as predictors of the development of skills such as giving and comprehending narrations, explanations, descriptions, and definitions (Beals, 1993; Heath, 1986; Michaels, 1981; Ninio & Bruner, 1978; Snow, Cancino, De Temple, & Schley, 1991). These skills, in both oral and written forms, are necessary for success in school, and their development is believed to be facilitated by specific kinds of social interaction. Conversational language is not a single ability; different skills are used in different contexts for different purposes. These various purposes and skills are then differentially related to literacy outcomes.

It is important to remember that literacy development is not simply a result of the kind of input that a child hears. Children are active participants in the give-and-take of conversation. Mothers listen and adjust their input based on their perceptions of their child's abilities, needs, and responses. So the ways that a mother talks to a child will be linked to the child's ability at any given point in development.

The Home-School Study of Language and Literacy Development (Snow, 1991) is a longitudinal study that is investigating the different settings and skills found in children's early language environments as predictors of later literacy development. In this paper, we explore some measures of family socioeconomic status, children's conversational ability, and the kinds of input children hear. We examine the relationships of these measures with literacy outcomes such as comprehending stories and giving definitions.

THE STUDY

Subjects

Three-year-old children were recruited from preschool programs (including some Head Start programs) in the greater Boston area. We looked for children who were eligible for Head Start (and therefore their families were considered to be low-income) and for whom English was their home language. Eighty-two families agreed to participate in the study for a total of 84 children (two families had twins). There was no attrition between the first and second home visits.

The Families

The children come from a range of cultural, racial, and economic backgrounds. Fifty-five of the subjects (65.5%) were white, 23 (27.4%) were African-American. and 6 (7.1%) were Hispanic. There were 41 males and 43 females. Although the families in the study are considered to be low-income on the basis of the child's eligibility for Head Start, they represent a wide range of social and economic situations. About half of the mothers (48.8%) reported that they had graduated from high school and had not pursued further education. A quarter of the mothers (25.0%) had not finished high school, whereas the remaining quarter (26.2%) had received some post–high school education, usually some vocational training. Over half of the families (47) reported their income to be less than $15,000 annually. Family configurations varied widely in the sample. A total of 28 families consisted of one parent (mother) and children. Fifty families reported the presence of at least one adult besides the mother, usually the father, step-father, or grandparents.

Data Collection

In the Home School Study of Language and Literacy Development, home visits occurred once each year, when the target children were 3 years old and again when they were 4 years old. During these visits, we asked the mother to read two books to her child, elicit a report from the child about some interesting event, and record a family mealtime conversation. We also interviewed the mother in order to gather information about the family's social and economic circumstances and their literacy practices.

When they were 5 years old, target children were given a battery of standardized tests of linguistic and cognitive skills, and asked to perform a set of independent language tasks. Among these measures were a story comprehension task, in which the experimenter read the children's book *Snowy Day,* by Ezra Jack Keats, and asked a series of questions, tapping the child's world knowledge and inferential ability. A percent correct score was computed for each child. A definitions task, in which the child was asked to give definitions of 14 nouns, was administered. These definitions were rated on how formal they were (inclusion of a superordinate category with a relative clause; e.g., "a thief is a person who steals"). A further task of naming the superordinate category when given a list of nouns was administered.

HOME LANGUAGE MEASURES

Mealtimes

At the end of each home visit, we left a blank tape with the mother, asking her to record a mealtime and mail the tape back to us. These tapes provided us with a sample of conversation among family members without the presence of an experimenter.

Mealtime conversations varied widely in their style. Some consisted of family members watching television while they were eating and talking about the show that was on at the time. Others seemed to be occasions for family meetings; a time when everyone talked about their day, what they did, and what they learned. They ranged in length from 3 minutes of recording to 47 minutes; from 23 utterances to 1,016 utterances. The different family configurations became prominent when we examined family mealtime conversations; some conversations included mother, father, target child, and siblings, whereas others were only between mother and target child. Conversations were free-wheeling, jumping from topic to topic and speaker to speaker.

Because we had to depend on families to make tapes and return them to us, we did not receive tapes from all families. After the first home visit, 62 families (with 64 target children) returned mealtime tapes. After the second home visit, only 45 families (with 46 target children) returned tapes.

We were especially interested in occurrences of extended discourse around a particular topic. We analyzed mealtimes for the presence of narratives and explanations. Narratives were defined as at least two temporally sequenced events (Labov, 1972) within the conversation. These narratives were generally recounts of past events or discussions of future plans or possibilities. We defined explanations as exchanges in which one speaker made some connection clear to another (Beals, 1993). These connections were characterized as the answers to questions of why something happened (causal explanations), why someone behaved in a specific way (intentional explanations), why someone feels some way (explanations of internal states), what something is like or what something means (definitional/descriptive explanations), how something is done (procedural explanations), and how someone knows something (evidential explanations).

Families engaged in an average of 3.5 (*SD*=3.2) and 3.8 (*SD*=3.3) narratives per mealtime at ages 3 and 4 respectively, and an average of 12.4 (*SD*=10.7) or 13.4 (*SD*=7.6) explanations per mealtime. Narrative talk accounted for a mean of 16.1% (*SD*=14.9) of all mealtime talk at age 3 and 11.8% (*SD*=10.4) at age 4. Explanatory talk, on average, accounted for 15.8% (*SD*=13.1) and 18.7% (*SD*=16.8) of mealtime talk at ages 3 and 4 respectively. The larger numbers of explanations than narratives taken with the roughly equivalent proportions of explanatory and narrative talk indicate that explanations were, on average, shorter exchanges (in terms of number of utterances) than narratives. Children were important contributors to such conversations, accounting for approximately 30% of narrative and explanatory talk at both home visits.

Book-reading

At each of our home visits the mother was asked to look at a book brought by the experimenter, *The Very Hungry Caterpillar* (by Eric Carle), and at a favorite book familiar to the child. A second book was available if the mother and child did not provide a familiar book.

Book-reading conversation was, in almost all cases, necessarily shaped and directed by the mother. Most mothers used a book-reading style of asking questions and commenting at intervals throughout the reading of the text. Two measures were of particular interest during the book-reading activity: the relative involvement of the child, and the content of the talk. As a measure of the child's participation, an information index was created as the ratio of the child's utterances in which he/she gives information (both responses and spontaneous comments) to the mother's utterances in which she requests information. An information index of 1 suggested that the child answered the mother's questions and did not say more. An index greater than 1 suggested that the child was spontaneously providing information beyond that which was requested by the mother. An index smaller than 1 presented a picture of a mother making more than one request in order to elicit one response from the child. The second measure of interest involved the content of the talk. While reading, the topic may be restricted to what the mother and child see before them in the illustrations and hear in the text (coded as immediate talk), or the book may provide a starting point for facilitating talk about what is not immediately present, such as predictions, inferences, explanations, and associations with past experiences (coded as nonimmediate talk). Nonimmediate talk is more explicit with less reliance on shared physical context, and may closely reflect the skills that will be required in school for later successful literacy and school achievement.

The information index suggests that with the new book, *The Very Hungry Caterpillar,* children at age 3 do more than just answer their mothers' questions (mean index at age 3: 1.37, *SD*=.93; at age 4: 1.93, *SD*=2.00). Their participation with this book is greater, however, at age 4 than at age 3 (*T*=2.213, *p*<.031). On average, there is more child participation with the familiar book of choice than with the new book (mean index for the book of choice at age 3: 2.66, *SD*=4.49; at age 4: 2.38, *SD*=3.64). Three-year-olds make twice as many comments and responses on average in relation to their mothers' questions when reading the familiar book than when reading the new book (*T*=2.578, *p*<.012).

For each book-reading, the proportion of nonimmediate talk by the child is close to that of the mother, with averages around 14 to 15% for both participants at ages 3 and 4 for *The Very Hungry Caterpillar,* and for book of choice, 16 to 19% at ages 3 and 4 respectively. This is not surprising since much of the interaction around book-reading consists of questions and answers, comments and responses. It is disappointing that mothers and children do not include more nonimmediate talk than they had the year before. It does not appear that the increased cognitive and linguistic skills of the 4-year-old child (and the somewhat greater familiarity with the book in the case of *The Very Hungry Caterpillar*) are being tapped. We did find, however, that when the mother and child read a familiar book rather than *The Very Hungry Caterpillar,* a greater percentage of the talk was nonimmediate at the age-4 visit (*T*=2.062, *p*<.043).

Elicited Reports

Elicited reports allowed a mother and child to display their ability to tell a story together. During home visits, we asked mothers to have their child tell about some interesting event that they had attended together. Topics for these reports included trips (either local or long distance), personal events, holiday events, daily events, or book or movie events. Elicited reports proved to be a difficult task for most of the target children at ages 3 and 4, and mothers had to suggest topics and ask questions in order to lead their children through the telling.

In order to measure the child's and mother's relative contributions to the elicited report, we coded all utterances within the report for the give-and-take of information between mother and child. Mothers generally asked questions of the children, leading them through the telling. As with book-reading, an information index was created, representing the ratio of the number of times the child gave information to the mother's requests for information. At both home visits, the mean information index was below 1 (mean index at age 3: .81, *SD*=.57; age 4: .88, *SD*=.62), indicating that children tended to give less information than the mothers requested, requiring the mothers to prompt the children repeatedly or to change questioning strategies in order to get a response. In these situations, mothers would simply repeat a question or they would reduce the level of demand on the child in asking the question, moving from an open-ended question (e.g., "What did we do yesterday?") to a more specific question (e.g., "What did we do at the park yesterday?", to a yes-no question (e.g., "Did we play on the swings?"). In two cases, however, the mother simply nominated a topic, and the child reported the entire event with little or no help from the mother.

HOME MEASURES AS PREDICTORS OF OUTCOME MEASURES

In order to demonstrate the relationships between the child's early language environment and their later success in school and literacy activities, we undertook regression analyses, using the home variables discussed above as predictors and the kindergarten (age 5) measures described earlier as outcome measures. We wanted to build models that included socioeconomic measures, family linguistic input measures, and individual child measures. We were interested in how these different kinds of measures would combine to explain variation in age-5 literacy measures.

Predicting Formal Definitions Scores

Using principal components analysis, a formal definitions score for each child was created by compositing a mean of quality ratings of each definition given, percent of formal definitions given (see Snow et al., 1991), and the superordinates score. This new composite score (*mean*=0, *SD*=1, *min*=-1.31, *max*=2.10) was treated as the outcome in our first regression analysis.

We then created a number of other composites using principal components analysis. These included a demographics composite, made up of mother's educational level and family income level at the first home visit (*mean*=0, *SD*=1, *min*=-2.63, *max*=2.26), which we used as a control or background measure in our model building. This variable is a rough indicator of socioeconomic level. We also created a mealtime discourse composite, consisting of the average of percent of narrative talk at the two home visits and the average of percent of explanatory talk at the two home visits (*mean*=0, *SD*=1, *min*=-1.50, *max*=3.31). This measure gives us an idea of the family's proportion of discourse talk at mealtimes, reflecting the amount of exposure to such talk the child receives. The third composite was a child sophistication measure at age 3, made up of the average length of the child's turn in the elicited report at age 3 and the average length of the child's turn in the age-3 mealtime (*mean*=.050, *SD*=.997, *min*=-1.76, *max*=4.17). We are assuming that a child who is able to put together longer utterances and hold the floor for these longer utterances has much more sophisticated conversational skill.

These three variables were used as predictors of the formal definitions score, along with a fourth variable, the number of mealtimes returned by the family over the two home visits (15 families returned zero, 28 returned one, 42 returned two mealtime tapes; *mean*=1.3, *SD*=.76). We used this last variable as a proxy for the family's ability to follow through (i.e., can they follow through on their commitment to the study by taping and returning a mealtime conversation?). This variable is also used as a background variable. The results of the regression analysis are found in Table 1.

Only the child sophistication measure predicts the formal definitions score on its own, predicting 12.9% of the variation in formal definitions. However, when the child sophistication composite and the mealtime discourse composite are included in the model (Model V), they predict 23.9% of the variation in formal definition scores. When we include the family background variables in the model (Model VI), the demographics composite and the number of mealtimes returned, a surprising 49.2% of the variation in formal definitions is predicted. There was one case in Model VI that had high influence; once this case was removed from the model, however, the model (Model VII) still held up with only minor changes in the coefficients. Hence, we take Model VI as our final model.

Formal definition scores are predicted by a combination of family variables and by the child's conversational sophistication at age 3. Controlling for family socioeconomic level and family's follow-through, greater levels of family mealtime discourse and greater child conversational sophistication are associated with higher formal definitions scores. This demonstrates that socioeconomic factors are not the only ones at work in the literacy development of children.

Predicting Story Comprehension Scores

Next, we used regression analysis to predict the 5-year-old child's comprehension while listening to a story. We found that two variables, the child's average length of a turn in the age-3 elicited report and the book of choice index at age 4, predict story comprehension (see Table 2). Together these two variables account for 34.9% of the variation in story comprehension scores (Model III). After two high-leverage cases were removed (Model IV), we found that the model held up. For this reason, we consider Model III our final model. Both of the predictors in this model are measures of the child's ability, as opposed to the mother's or family's input. The demographics variable and the number of mealtimes returned, our two family background variables, did not add any explanatory power to the model, and hence, were left out. Again we

Table 1

Regression Models for Predicting Formal Definition Task Scores

Model	Variable	Pearson r	R^2	d.f. Error	Change in R^2
I	Demographics	.196	.039	71	—
II	# of MTs returned	.224	.050	72	—
III	MT % of discourse talk	.010	.036	61	—
IV	Child soph. age 3	.359	.129**	51	—
V (III+IV)	MT disc. & Child soph.	—	.239*	50	.110*
VI (I+II+V)	All	—	.492*	48	.253*
VII[a]	All	—	.472*	47	—

[a] One high-leverage case removed.
*$p<.005$, **$p<.01$.

Table 2

Regression Models for Predicting Story Comprehension Task Scores

Model	Variable	Pearson r	R^2	d.f. Error	Change in R^2
I	ER Child MLU age 3	.407*	.166*	66	—
II	BR Index BOC age 4	.393*	.155*	48	—
III (I+II)	Both	—	.349*	42	.194*
IV[a]	Both	—	.322*	40	—

[a] Two high-leverage cases removed.
*$p<.005$.

see that the child's conversational sophistication at age 3 is a predictor of an outcome, in this case, the story comprehension score.

DISCUSSION

In the analyses described here, we found that a combination of home social and economic measures, general family conversational measures, and child language measures are good predictors of formal definitions scores and story comprehension scores. Interestingly, mothers' conversational input measures did *not* emerge as strong predictors. However, we can see mothers' impact in the information index (for bookreading) as a reflection of their ability to involve their children in the conversation. They allow the children to participate in this talk, giving them the floor in conversations. Mothers use questions to engage their children in conversation, just enough to encourage and support reluctant ones while allowing them to take over once engaged.

We also see the mothers' input reflected in the proportions of explanatory talk and narrative talk that occur within the family mealtime conversation, since mothers are responsible for about half of that talk, on average. The presence of discourse talk in models predicting literacy outcomes suggests that families that engage in extended talk, such as explanatory talk and narrative talk, expose their children to interesting and extended and sophisticated ways of expressing themselves.

This paper has focused only on home contributions to early literacy skills; we have not addressed the support that preschool classrooms can provide to the child's development. Preschools are in a crucial position to aid in the development of language and literacy skills. The Home-School Study has examined preschool classroom influences in conjunction with home influences (Beals & Smith, 1992) and found that home and school provide both overlapping and complementary contributions to the development of language and literacy.

The findings here confirm that explaining the development of literacy is a difficult, complex undertaking. Literacy is an extensive set of interrelated activities, and hence, is influenced by a wide range of variables. We have used only a small number of such variables, socioeconomic level, family linguistic environment, and individual child sophistication, to predict only two pieces of literacy development, story comprehension and giving definitions. We have not been able to show causality in any of these relationships. And we have not embedded the issues of culture that impinge on literacy and its development, as Heath (1986) and Michaels (1981) do. This work is only one small piece of the puzzle, a puzzle that requires interlocking the child's abilities and inclinations, the family's history, structure, economics, and interactional styles, and the influences of the broader culture, such as school and the media.

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MOVING TOWARD AESTHETIC LITERACY IN THE FIRST GRADE

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Semioticians believe that the words or gestures we use to communicate are only signs of meaning, not meaning itself, and that we assign meaning to signs or symbols using both personal and cultural knowledge (Harste, Woodward, & Burke, 1984; Newkirk, 1989). Cultural beliefs and social conventions organize and regulate our use of symbols in sign systems like language, mathematics, music, art, and drama.

A growing number of educators (Eisner, 1982; Gardner, 1983; Greene, 1990) contend that our curricula are too narrowly focused on the conventions of language. Whole-language theory makes an important shift from an emphasis on conventions to an emphasis on meaning in written language, but sociosemiotic theory suggests we can do more than change the focal dimension of language. We can change the way we conceptualize the role of written language and other sign systems in thought and learning. Sociosemiotic theory does not view written language as an extension of oral language, but rather as one sign system in an array of sign systems used to express and make meaning. Written language, as one part of the individual's whole symbolic repertoire, does not develop in isolation, but rather in relationship to other sign systems. Just as whole-language theory enabled us to better see the connectedness of writing and reading development, sociosemiotic theory enables us to better see the connections between sign systems and intellectual development. From this perspective, the process of learning to read and write is a process which involves multiple sign systems simultaneously (Dyson, 1991; Harste, Short, & Burke, 1988) and could be considered the process of acquiring "aesthetic literacy" since literacy from this perspective is a whole literacy, comprised of multiple systems of expression.

There is little research to date that helps to explain what it means to see written language as a part of a whole symbolic system. Gardner's (1983) research yielding seven intelligences points in that direction but has been used to identify the proclivity of individual children to use a single intelligence and to design curriculum that narrows rather than expands sign system opportunities (Gardner, 1990). Hubbard (1989), looking at the use of drawing and writing in literacy development, and Short (1990), engaging with children in inquiry about sign systems and their role in learning, offer the best glimpses of sociosemiotic curriculum. Learners in these studies actively use more than one sign system in developing their understandings of self and others and form and function.

In this research project, classroom curriculum was developed from a sociosemiotic perspective so that the learners were continuously immersed in a full range of sign systems. This context was essential to the research since the purpose of the study was to look at how children use multiple sign systems in the process of learning to read and write.

Creating curriculum which keeps a full range of sign systems available and operative in the learning community requires knowledge about sign systems. The following assumptions, drawn from a review of the literature, formed a part of the curriculum framework for this study.

ASSUMPTIONS ABOUT SIGN SYSTEMS

(1) Sign systems offer alternative perspectives. Sign systems are not redundant. Music can express feelings we cannot put into words; language is a better medium for humor than math; yet math can represent concepts that are not easily represented in art, and so on. Just as we are multisensory, we have an array of sign systems for expressing what we want to share with those around us and for creating personal meanings (Eisner, 1982).

We use sign systems in flexible and coordinated ways. Authors and illustrators combine words and pictures; spoken language is supplemented by "gestures, postures, glances, grimaces, shrugs, grunts, and other forms of emphasis" (Smith, 1990, p. 113); and songs and movies incorporate language with music and scenes. We experience sign systems in many combinations because they are complimentary (Hubbard, 1989) and our thought is a rich dialogue of these many sign systems (John-Steiner, 1985). They allow us to know and express what we know in multiple ways.

(2) Signs do not transmit meaning; they mediate it. The signs we create to make our thinking accessible to others and to ourselves are not transmissions of our meanings. We cannot pass our understandings on through the signs we use. Rather, our signs act as prompts others can use to construct meanings of their own.

Using a sign system is a recursive process. The author of a representation is affected by what emerges. Working with a sign system provides the individual with an opportunity not only to perform as a creator, but also as a critic. The actions and ideas of the individual are stabilized in the medium: "one hears the music one plays, one reads the words one writes, one sees the images one creates" (Eisner, 1982). Thus, the developing artifact is a text for analysis, revision, and appreciation. It is a link between the known and the unknown.

(3) We rely on the sign systems we know best. The more experience we have with a sign system, the more likely we are to use it, and the more aware we are of its presence in our environment.

(4) Sign systems are culturally constituted. Sign systems are inventions of our cultures. They reflect our social conventions and communicative needs, yet they are mostly transparent. We are surrounded by messages and meanings and respond without much conscious thought to the sign systems we use (Solomon, 1988).

METHOD

Site and Curricular Context

This research spanned a school-year in an urban first-grade class taught by Karen Johnson, a fourth-year teacher with a whole-language teaching/learning history. The children in the class came partly from the low-income neighborhood around the school and partly by bus from outlying middle-class neighborhoods. There were 10 girls and 8 boys; 6 African-American, 1 Asian, and 11 Caucasian.

The classroom was large with desks at one end and an open space for meeting on the floor at the other. It had the essential resources—a roll of brown paper, a rack of scissors, a tub of crayons, math manipulatives, and several packages of writing and construction paper. We added a few things like portable tape recorders, a music keyboard, a computer, rhythm instruments, and a large pegboard. The textbooks were shelved, and the students used library books and children's literature. The class was mostly self-contained. The children left for a class of art, music, or gym each day and alternately worked in the first- or second-grade classroom with a second-grade learning partner during an hour designated as science/social studies each afternoon.

The curriculum was planned collaboratively by Karen and myself in large units we called "focused studies." These units lasted 6 to 10 weeks and involved the class in inquiry into questions such as "What was it like to live in the United States when it was a new country?" or "What is real? What is make-believe?" The school day was organized into large blocks of time. After journal writing and sharing time, the children spent the morning in a work block during which they met in literature, writing, or inquiry groups; read and wrote independently; and worked at "invitations" around the room. These invitations were simply resources made available to the children with suggestions about how they might be used to further the inquiry of the group. Children chose the invitations that interested them and worked in pairs or threes. These invitations, generally set-up around the perimeter of the room, provided a means to present multiple sign system opportunities which were open-ended and connected to the curricular focus. We attempted to keep music, art, drama, and math opportunities ever-present in the environment in this way. For example in the inquiry into Colonial America, children were invited to be museum curators, to inhabit an Indian wigwam, to make quilts and explore patterns, to read poetry and beat drums in rhythm, to read Indian legends, to tell math stories using the flannel board with Mayflower and Pilgrim cutouts, to view portraits of the era and draw portraits of themselves and their friends, and to paint with dyes made from squash and berries.

In the afternoons, we began with a sharing time used for reading aloud, reflective class discussions, or hearing from individuals. This was followed by an hour of multiage grouping (a combination of half first graders and half second graders) and active, whole-group experiences which included multiple sign systems as often as possible. Each day ended with a final written reflection in learning logs.

This curricular context provided rich content and experiences worth thinking about and sharing in multiple ways. The children used language and learned about language without being focused on language. Rather, the focus of the curriculum was on how the class functioned as a community for learning. In addition to sharing a large conceptual and content inquiry question, this class of children shared an inquiry about learning with us. We posed questions such as "How can we learn this together?" "What will count as successful learning?" and "How will we share what we have learned?"

Data Collection and Analysis

Karen and I collaborated as a teacher-researcher team. She generally maintained the role of teachers while I collected data, but we did switch roles occasionally. Karen engaged the class in five focused studies across the span of the year, and I was intensively involved in the second, the fourth, and the fifth. This permitted me to gain entry before beginning to collect data and to sort and reflect on the first round of data before reentering for the fourth and fifth focused studies.

In an effort to answer the question of how children use sign systems to learn, we collected a wide variety of data: videotapes of learner engagements, tape-recorded interviews with the children, and tape-recorded class and small-group discussions, photos of the children at work, conversations or written responses about what they were doing and why, learning logs, field notes, parent responses, portfolios and artifacts, and tape-recorded conversations between Karen and myself.

The multiple data sources permitted triangulation in analysis. The interpretation of video segments has been enhanced by having field notes that record the sequence of events preceding and following the engagement, artifacts that were created by the children in the video, by knowing what Karen and I said about the engagement at the time, and by reading what the child wrote later about the experience. The 60 hours of video taped interaction are the richest source of data in this study as they are whole records of sign system use and lend themselves to micro-analysis.

I have used a constant comparative method (Lincoln & Guba, 1985) to analyze the data. At the time of this report, I have completed two distinct cycles of analysis and have plans to do two more. The first cycle began after the first focused study in the classroom. I viewed all of the video recordings from the Colonial America study and compiled instances of children connecting with discipline-specific knowledge as they were using sign systems. The units of coding were video segments in which a child or group of children were involved in a single engagement such as dramatic play at the wigwam or writing in a learning log. There were 21 units in this set, each between 3 and 12 minutes in duration.

I transcribed and shared examples from this set with three different groups of teachers to verify my contention that the learners in the video clips were making multiple discipline-related connections as they painted with natural dyes, wrote Indian poems, and practiced the "Corn Dance." The teachers concurred and I returned to the video units and attempted to sort them according to the sign systems the children were using, but this did not work. Instead, I ended up with the following five categories of engagement: (a) story—which included reading, writing, listening, telling stories, drama, and children working on literature response projects; (b) inquiry—which included learners involved in the process of pursuing a question with the collaborative support of peers; (c) conversation—dialogues in which the participants shared multiple perspectives for the purpose of knowing more and knowing differently; (d) reflection—including children recording important events, making judgments, and identifying new things to think about and new questions; and (e) transmediation—working across sign systems to represent the known or the felt.

This first cycle seemed like a false start. I was struggling with the distinction between sign systems and disciplines, a distinction blurred by the close relation of disciplines to sign systems. Artists learn to think and use the signs and conventions of art, whereas musicians learn to use the signs and conventions of music. In part their knowing is disciplinary, much like the knowing of a chemist or a historian, but separating sign systems neatly from disciplines serves no purpose. In the process of learning this, I identified categories of engagements which supported the coordinated use of sign systems and disciplines.

In the second cycle of constant comparative methodology, I focused first on classroom artifacts such as photo reflections, journals, artwork, student writing, and transcripts. I used post-its to highlight the significant features of each artifact; and as the artifacts seemed to fit together, I grouped the post-its and used them to describe the properties of each category. Eventually, I named the categories and wrote descriptive memos. When I had worked through all of the artifacts and had only a handful which fit no existing category, I began sorting videos segments into these categories as well and found multiple instances for each. The descriptions of these categories of sign system use follow in the results section. They are tentative and have been useful when juxtaposed with the categories from the first data sort in setting a direction for further analysis.

RESULTS

The first graders who collaborated in this study were aesthetically literate. They learned to read, write, and compute, and did well as a class on the state's standardized tests. They also learned as active users of multiple sign systems, and this made them look and feel different as learners. As one kindergarten teacher said after a visit, "I felt like I was in a different world."

The children were self-reliant and collaborative. Even Peter who was a nonreader was a valued thinker and contributor. And Jay who would have been a behavior problem in most classes was supported and esteemed by this group. The willingness of the students to engage, to reflect, and to attend to the learning of their peers grew from their shared experiences. They learned to trust that their perspectives and performances were valued, and they coaxed their parents in to see their work and share their learning.

Building curriculum from the sign system assumptions outlined earlier, we were able to create a context that kept open a wide range of sign system possibilities. As a result, we saw learners working in a bigger sphere than ever before. The following category descriptions help illustrate the ways sign systems were used by the learners in this study:

Using sign systems to "read" the meanings and perspectives of others. If reading is the process of making meaning based on the signs and conventions of written language, then something essentially like reading goes on in all sign systems. The first graders in this class were quite intent on learning to use print to make meaning, but this intensive desire to make meaning was evident in other sign systems as well. In this data category, there are instances of children pouring over illustrations and drawings, children handling and interpreting museum pieces, children watching drama and listening to music. These "readers" recognized opportunities to use the signs created by others to think, and their comprehension was often demonstrated in sign systems other than language.

Using sign systems to author. To author, in this instance, means using sign systems to invite others into your world. The children learned how to get others to engage with their thinking or to more deeply involve themselves in their own thinking by using sign systems. They discovered their own power to evoke response and the power of response to deepen their thinking. The students spent a great deal of their time using sign systems to create artifacts or experiences that would invite conversation and comment from others.

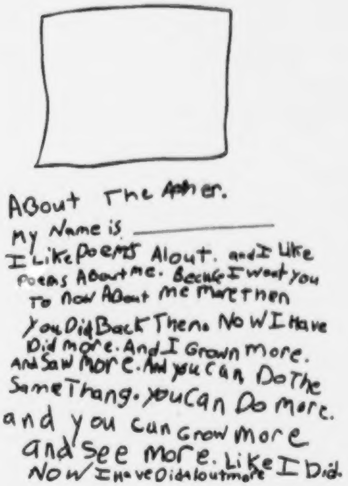
This example of authoring reflects the theory of authoring and learning Tiffany developed as a member of the class. She wrote this "author sketch" to go in a book of her poems (see Figure 1). In this case, she used written language to invite a reader. She used this same social technique of invitation in her art and drama also.

Using sign systems to transmediate. The recursiveness of using a sign system can support learners in capturing fluid thought. One sign often leads to another which may suggest another. This process of forming thought into signs, or transmediation, takes time. Working with a medium like paints, crayons, scissors, or clay and concentrating on the emerging artifact is satisfying in its own right. It also provides the individual with a text to reflect upon and to share.

Many times, learners moved among the systems as Tina did in her doodle. She had half written, half dictated a story about a cat prior to creating this artifact (see Figure 2). Pictures like this are often thrown away, judged as trivial work. But drawings like this looked different through the lens of John-Steiner (1985) and Smith (1990) who contend that thought is a complex flow of multiple signs—visual, emotional, musical, and dramatic. It seems that Tina was working to capture the flow of story and its relationships to letters and numbers.

Using sign systems to make sense of part/whole relationships. Understanding existing structures and seeing relationships allows learners to predict and connect with experiences and information at the edge of their learning. The learners in this class had very different senses of structure. Tracy's drawings were always complex. She included every detail, right down to light beams streaming from the fluorescent bulbs in her pictures. Her drawings and other work indicated that she made many connections between curricular engagements, and learning hung together as a whole for her.

Peter, on the other hand, almost never represented an event or individual in relationship to something larger. His drawings were almost always of a single item in isolation with a single word as a descriptor. His development as a reader and writer was slowed by a seeming inability to remember letter names or words, and at the beginning of the year, he had difficulty retelling even the most predictable of stories.



About The Auther.
my Name is ____________
I Like poems Alout. and I Like
poems About me. Becuse I want you
To now About me more then
you Did Back Then. NoW I Have
Did more. And I Grown more.
And Saw more. And you can Do The
Same Thang. youCan Do more.
and you can Grow more
and see more. Like I Did.
NOW I have Did alout more

Figure 1. "About the Author," written by Tiffany.

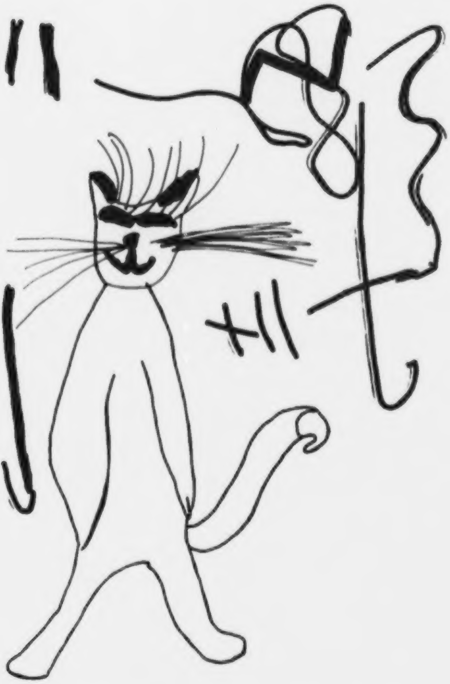


Figure 2. Tina's transmediation weaves together a variety of sign systems.

Using sign systems to recognize or create a "place". The children gravitated to opportunities to create and use "place." Having created a rain forest, they slithered like snakes, beat drums, and confronted wild animals. Having created a castle, they lived the fantasy lives of the fairy tale characters blended with the divorces and financial woes of the real world.

Places in the room gave them permission to create worlds in which they had the power to shape events. Susan, sweeping out the wigwam, said to Brad, "You go get corn and cook it. I'll go hunting and shoot a deer."

Brad answered, "Yeah, and I'll meet Squanto on the way." And so it went, with each participant telling part of the story, negotiating its fit with the others involved. This was not always simple, as the stories they brought to these places were diverse. But "places" invited world-making and a sense of agency which strengthened participation in the class community.

Given wide access to sign systems, almost every personal or group inquiry resulted in the creation of an artifact which functioned as a physical place for the individual or group. In the process of creating artifacts like dioramas, murals, or choreography, groups or individuals lived out small dramas, told personal stories, talked about new information collected through research, wrote, and used many sign systems to work toward an understanding of the topic.

DISCUSSION

Juxtaposing the categories from the first and second rounds of analysis has generated an interesting theoretical insight:

First Round	*Second Round*
Story	Reading
Inquiry	Authoring
Conversation	Transmediation
Reflection	Place
Transmediation	Part/Whole Relationships

These categories are not parallel in a curricular sense. Story and inquiry are macrostructures which encompass all the others. Story and inquiry are both engagements which incorporate reading, authoring, dialogue, reflection, place, relationships, and transmediation. Story and inquiry are frameworks for making sense of experience and as such, seem to be useful structures for sign system curriculum planning.

Both story and inquiry are culturally defined. Stories reflect the language patterns, images, and important concepts of the culture they come from. They also commonly demonstrate how one might think and work through sign systems. Choose any story to analyze and there will be instances of reading, authoring, dialogue, reflection, and transmediation. For example, in *Brer Rabbit and the Tar Baby* (Harris, 1987), Brer Fox *transmediated* his frustration with Brer Rabbit into a Tar Baby. When Brer Rabbit came upon the deaf and dumb Tar Baby, he *read* the situation and decided the Tar Baby was "stuck up." So he punched the baby until he was completely mired in the tar. At that point, Brer Fox emerged from the bushes to share his perspective on the situation. In the course of the *conversation*, Brer Rabbit realized that the situation was one of premeditated revenge, and Brer Rabbit quickly *authored* his own salvation: "Oh please don't throw me in the briars!" Which is just what Brer Fox did, only to realize in *reflection*, that he had been "fooled mighty bad."

Using signs is such an invisible part of culture, and hence our thinking, that we learn the systems without conscious effort. We learn them from those around us, from our environments, and from the stories we share. In particular, the ability to read, write, listen, speak, and think using language is highly prized in our culture. We value stories because we value language and what we can do with language. But underlying functions of sign systems—reading, authoring, reflecting, conversing, and transmediating—do not begin and end with language. They go on in all the systems. In music, art, drama, and other sign systems, learners use signs and conventions to interpret and create meanings. Working in multiple sign systems simultaneously, learners are able to prolong thinking and consider multiple perspectives.

Stories can act as a framework for bringing multiple sign systems together. "Zippity-Dee-Doo-Da," illustrations by Barry Moser (Harris, 1987) and the film of "Song of the South" are all sign system responses that grew out of the Brer Rabbit stories. Our language arts curricula include literature for its ideas and for learning about language without capitalizing on story's potential for providing an anchor for multiple sign systems use.

Story is a structure with many levels of entry, one of which is setting, or place. In this first-grade classroom, the importance of place was evident. It provided stationary ground, in contrast to children's experience being a kaleidoscope with a continually changing ground and foreground. The children responded to place using the full realm of sign systems. They danced, dressed, acted, and wrote without prompting or the imposition of outside structure on their learning. Their project work became a "place" for them as they generated artifacts that represented their hypotheses or stories of the world using a wide range of sign systems.

As curricular structures, story and place are very different than direct instruction and guided practice. Yet they may well serve the same purpose for learners. They provide demonstrations of sign system use and opportunities to practice. They also open the door to a full spectrum of sign systems, not just language. They open a space in the curriculum for what is commonly undervalued and difficult for teachers to accept as legitimate.

Inquiry also has potential as a curricular structure. The recursive process of formulating questions, seeking and organizing information to arrive at tentative answers, and working individually and with collaborators, like story, can be both a demonstration and a place to practice multiple sign system use.

In further analysis, I plan to check this tentative theory that story and inquiry are frameworks which can support the development of aesthetic literacy in two ways. One is to do a case study of Peter, the nonreader in the group. Peter's response to story at the beginning of the school year seemed to be disinterest. He did not seem to grasp the wholeness of story nor of the system of language. I am hoping that a systematic trace of his learning across the year will show how he learned to see a different part/whole relationship. Was it through story or inquiry? Is a larger sense of structure necessary to understand written language as a system?

The second direction for further analysis will be an exploration of the learning theories of the students. In curriculum where multiple sign systems support literacy learning, what do learners value? What sense do they make of the learning process and their use of sign systems?

Curriculum organized by subject areas makes sense to adults who have lived with such a framework for a lifetime, but imposing these structures onto children, whose thinking is mediated by multiple sign systems and moving flexibly across disciplines, should be questionable practice. We successfully school away children's repertoire of sign systems by discounting their importance and neglecting their use. Story and inquiry may well be better frameworks for planning and orchestrating curriculum and for reeducating ourselves about the role of sign systems in learning.

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ENVIRONMENTAL PRINT, PHONEMIC AWARENESS, LETTER RECOGNITION, AND WORD RECOGNITION

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Researchers disagree about how a reader progresses toward independence in word recognition. Whole-language theorists argue that word-recognition ability, like speech, develops naturally with functional experience with written language (Goodman & Goodman, 1979). They suggest that successful beginning reading begins with a gradual accumulation of purposeful experiences with print in building lexical knowledge.

Mason (1980; see also Mason, Peterman, Dunning, & Stewart, 1992) describes a probable sequence of stages of context dependency, visual recognition, and letter-sound analysis. Readers who are context dependent try to recognize words in the same way they recognize shapes or pictures—accurate identification depends on seeing words in familiar surroundings. Visual recognition readers rely on accurate letter recognition to cue in on partial spellings to build a small but fairly reliable lexicon. Readers capable of letter-sound analysis reconstruct the phonemic structure of a word from its spelling and thus become capable of independent word recognition, limited only by their spoken vocabularies.

In this model, children originally learn words in contexts, such as the word *STOP* in a stop sign. Children may not focus on the print, but rather on the logo as a whole or on some distinctive feature, such as its shape. As they learn about letters, children begin to attend to the print in the logo and learn words through such decontextualized knowledge. There is some anecdotal evidence that children make increasingly sophisticated responses to print in their environment, suggesting that this may be a source of word learning (e.g., Harste, Woodward, & Burke, 1982).

Adams (1990) points out that commercial logos are developed for their overall visual distinctiveness and are meant to be perceived as wholes. Instead of focusing on the print in a logo, children process the logo as a picture, noting shapes (and possibly colors) sufficiently to locate desired items on future occasions. Goodman and Goodman (1979) suggest that children are interested in logos because they are interested in the products that these signs signify. However, if picture recognition is enough to gain access to soft drinks, hamburgers, breakfast cereals, and so on, there may be no particular reason for children to exert additional effort to analyze and remember a letter sequence.

Learning about words through environmental print. Harste et al. (1982) and others (e.g., Ylisto, 1968) have shown that preconventional readers seem to extract meaning from print in consistent ways (such as saying "toothpaste" when shown a CREST logo). These studies also show a decline in word-reading accuracy as environmental elements (package shapes, picture cues, logos, and color) are progressively removed from printed words. Harste et al. (1982) posit this as evidence that children learn to extract print from the environment.

The findings of Masonheimer, Drum, and Ehri (1984) cast doubt on that explanation. Instead, their findings suggest that only children who are otherwise reading can identify print out of context. They found that only children who could recognize a substantial proportion of the letters could identify words taken out of an environmental print context or could recognize significant changes in the print within that context (e.g., could perceive a difference between *Xepsi* and *Pepsi* when presented side by side).

A similar phenomenon was observed by Gough, Juel, and Griffith (1992), who taught groups of 4- and 5-year-old children to identify words presented on flash cards. One card had a thumbprint in the corner. They found that children tended to focus on the thumbprint in learning the word, ignoring the print. In both of these studies, emergent readers seem to lock onto an incidental visual feature, the logo context or a thumbprint. Print-specific knowledge seems necessary to focus on the words rather than on incidental features of the visual display.

Taken together, these studies suggest that children do not learn words from the environment, but instead learn to recognize words in commercial logos through knowledge about print (Ehri, 1987). It is their print-specific knowledge that leads to recognition of words in logos, and not their recognition of logos that leads to word knowledge.

The purpose of this study is to explore the relations between children's knowledge of letters, phonemes, and environmental print in their emerging reading skills.

METHOD

Subjects

Subjects were 113 Kindergarten and first-grade children (52 Kindergarten and 61 first grade). Approximately half of these children attended a private, Catholic school and half attended a public school, both located in a small city in northeast Georgia. Nearly all of the parochial students were white and largely middle class. In the public school, approximately half the students were African-American; here students represented a wider range of socioeconomic status.

Procedures

We saw each child individually for 30 to 40 minutes outside the classroom. We introduced ourselves by name and explained that we were interested in how children learn to read, and that we wanted to find out how children learn to read by asking them to do some reading and listening. After the introduction, we asked children to read some familiar logos, gave them an alphabet recognition task and phoneme-awareness measures, had them identify printed words taken from the logos, and then gave an informal reading inventory. We rewarded them with rings or other trinkets for their participation.

Measures

Environmental print. We presented 16 black-and-white photocopies of commercial logos chosen for familiarity to Kindergartners and first graders. These included the logos of fast-food restaurants, soft drinks, cereals, sneakers, and the local major league baseball team. They were scored by the number of words on the logo read correctly and by whether a child recognized the meaning of the logo (e.g., "sneakers" and "Reebok" were counted as acceptable semantically for *Nike*). Later, we presented each child with 18 printed words on cards, each a key word from a logo written in conventional (upper- and lower-case) print, and asked them to identify the words.

Phonological awareness. Students were given a phonological awareness measure developed especially for this study. Previous measures of phonological awareness have tended to confound task and level of linguistic analysis (Stahl & Murray, 1993). Analyses by Treiman (1985) suggest it is easier to separate an onset from a rime than to divide syllables in other ways. (An onset is the portion of the syllable that precedes the vowel; the rime is the remainder; rimes consist of the vowel and any coda, or final consonants.)

The phonological awareness measure consisted of four tasks commonly used to measure phonological awareness—blending, segmentation, phoneme isolation, and phoneme deletion. These subtests were controlled for four levels of linguistic analysis: dividing a syllable at the onset-rime break; dividing the vowel and coda; dividing the blended consonants of an onset; and dividing the blended consonants of a coda. Because the segmentation task proved to be unreliable in scoring, it was dropped from the study. The resulting measure has a Cronbach's alpha of .93, indicating that it is highly reliable (see Stahl & Murray, 1993, for further information).

Reading measures. For alphabet knowledge, we used the letter recognition items taken from Clay (1985), consisting of a list of 54 letters (upper- and lower-case, as well as a second form of "a" and "g"), scored for the number of letters correctly identified. We also used a commercially published informal reading inventory (Johns, 1991), which consists of a series of graded word lists and passages. We used two scores from this measure: the number of words read correctly on the word list and the instructional level achieved on the passages. Children were considered to have reached criterion on a passage if they could read it with 95% accuracy and retell it adequately. The retelling was used to ensure that children understood the gist of the passage.

RESULTS AND DISCUSSION

Environmental Print and Word Recognition

The basic form of analysis used in this study was to compare the amount of unique variance associated with different variables in different models. The models discussed earlier each predict different variables or groups of variables would explain more variance in word recognition. For example, the model that suggests that children learn to recognize words through interaction with environmental print would suggest that children's knowledge of logos would more strongly relate to their ability to recognize the words in these logos out of context than to their general reading ability.

The first set of regression analyses examined the effects of environmental print knowledge on word recognition. Both regression equations included the letter recognition measure first, since Masonheimer et al. (1984) found that letter recognition was a strong predictor of children's ability to read words taken from environmental print in isolation. This factor accounted for 24% of the total variance. In one equation, the number of logos correctly understood (allowing synonyms) was entered first, followed by the number of words read on the IRI. In the second equation, the order of entry for these two variables was reversed. The total model accounted for 82.7% of the total variance, suggesting that these three variables strongly predict children's ability to read words taken from environmental print. When the environmental print score was entered before the word-recognition score, it accounted for 30% (adjusted R^2) of the variance. The word-recognition score added an additional 28% (both, $p<.01$). When the word-recognition score was entered before environment print score, it added an additional 57% of the variance (both, $p<.01$), with the environmental print score accounting for only 2.7% more ($p<.05$).

Quite simply, our subjects' ability to recognize words from a logo was markedly more related to their ability to recognize words from a graded word list then to their recognition of the logos themselves. This strongly suggests that children can recognize words in logos because they have begun to develop a generalized word-recognition ability. Children's knowledge of different logos also contributed a significant amount of variance, but this amount was considerably less than that accounted for by children's knowledge of letters or of words in general.

Another source of evidence for the lack of importance of environmental print knowledge was the moderate negative correlation (-.50, $p<.01$) between the number of purely semantic responses (e.g., "drink" for *Pepsi*) and recognition of the words taken from the logos. This suggests that the more purely semantic responses that children made, the fewer words they recognized without the context of the logo. Our measure of pure semantic responses may underestimate children's semantic responses, since children could read *McDonald's,* for example, through recognition of the arches or through reading the words.

One interesting observation seems to capture the tone of this finding. The McDonald's item seems to discriminate perfectly between those children who attain an instructional level on the IRI and those who do not. The item, which was copied from a hamburger wrapper, not only says "McDonald's," but also "HAMBURGER," "100% American Beef," and "Put Litter in its Place." The word *McDonald's* is about one-tenth the size of the word *HAMBURGER*. As shown in Table 1, only subjects who were reading at least at the preprimer level (and usually much higher) said "Hamburger." Those children who responded with only "McDonald's" included both emergent readers and readers; 45 out of 75 children who responded with only "McDonald's" were emergent readers, and the remainder were concentrated at the lower end of reading ability. The word "Hamburger" is embedded not only on the wrappers, but also on the restaurant sign. If students are abstracting words from exposure to them in the environment, then *Hamburger* would be a prime candidate for this type of learning. The point is that children did not read *Hamburger* unless they have some knowledge

Table 1

The "Hamburger Test"

	Instructional Level					
	Below Preprimer	Preprimer	Primer	First Reader	Grade 2	Grade 3 or Higher
Number of subjects responding "McDonald's" only	45	10	3	15	1	1
Number of subjects responding "hamburger"		3		5	1	21

of print. In short, the logo tended to be more salient for emergent readers in our sample, whereas the words were more salient for more proficient readers.

Phoneme Awareness, Letter Recognition, and Word Learning

The other model, that word recognition results from a combination of phonological awareness and letter knowledge, was analyzed using a second set of regression equations. Our intention was to explore the relationships among these variables to one another and to word recognition. The correlations are shown in Table 2.

However, the three measures of phoneme awareness functioned differently in regression equations when letter recognition was also included. As noted in Table 2, the phoneme isolation task was more strongly related to letter recognition than were the other two phoneme awareness measures. When it was entered first into a regression equation with the number of words recognized on the word list as the dependent variable, it accounted for 9.7% of the variance ($p<.01$), with letter recognition ac-

Table 2

Correlations among Phoneme Awareness, Letter Name, and Word Recognition Measures

	Phoneme Isolation	Blending	Phoneme Deletion	Letter Knowledge	Total Words Read on Word List
Phoneme Isolation		.53	.53	.61	.30
Blending			.78	.45	.65
Phoneme Deletion				.44	.63
Letter Knowledge					.39

Note. All correlations statistically significant at $p<.01$.

counting for an additional 6.5% ($p<.01$). When letter recognition was entered first, it accounted for 15.5% of the variance ($p<.01$), with the phoneme isolation task contributing less than 1% of the variance (n.s.). Thus, phoneme isolation seemed to account for little variance beyond that contributed by letter recognition.

The opposite pattern was found for blending and deletion. As noted above, letter recognition accounted for 15.5% of the variance when entered first. When the child's blending and deletion scores were added, together they added another 32.5% of the variance. When they were entered first into the regression equation, they accounted for 47.3% of the variance, with letter knowledge adding less than 1%. Thus, performance on the phoneme isolation task contributed little to the prediction of children's word-recognition ability over letter recognition. However, when phoneme awareness is measured by blending and deletion tasks, it is letter recognition that contributes little to the prediction of children's word recognition over the two phoneme awareness measures. This suggests that although the phoneme awareness measures are highly correlated with each other, there seem to be two distinct levels of phoneme awareness, which interact differently with other factors important to beginning reading.

Learning through environmental print? The purpose of our study was to examine two different conceptions of how children learn to read words. The first suggests that children learn words at least partly through exposure to words embedded in environmental context. Our data support earlier research findings that environmental print learning accounts for little word learning. In our regression models, children's knowledge of letters and phonological awareness both account for more variance in children's word knowledge than does children's ability to identify logos. The negative correlation between semantic responses and word reading and the discriminatory power of the "hamburger test" also suggest that environmental print does not seem to lead to increased word recognition, but that children's increased knowledge of words helps them recognize words in logos. Children seem not to attend to the words in logos unless they are already reading words. The print in the logos, which are designed for easy discrimination, seems not to be salient for emergent readers and does not seem to be a significant source of word learning.

These results replicate those of Masonheimer et al. (1984) with older subjects (Kindergarten and first graders vs. 3- to 5-year-olds), a different set of logos, and the use of regression analysis to account for logo knowledge rather than selecting successful logo readers. Such a replication, using a different design, suggests that the finding that children do not seem to develop word-recognition knowledge from exposure to logos in environmental print is a robust one.

As in other studies (e.g., Durrell, 1980), the predictive power of letter-name knowledge was less than found in past studies, largely because of the restricted range of scores. No student knew fewer than three-fourths of the letters, with most having near-perfect recognition.

Children's involvement with letters and words may emerge from a variety of sources, including word games and engagement with print with an adult (often through joint storybook reading), or through adult discussion of letters in the environment. To improve children's emergent reading skills, we should investigate how to increase the likelihood of children developing knowledge about print through interactions with others around print, rather than expecting such knowledge to emerge from exposure alone.

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UNDERSTANDING PASSAGES IN SCIENCE TEXTBOOKS: A COMPARISON OF STUDENTS WITH AND WITHOUT LEARNING DISABILITIES

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Students with learning disabilities (LD) are commonly placed in mainstream science classes because of beliefs that they can learn science effectively in this setting (Scruggs & Mastropieri, 1993). The science class is considered an interactive learning environment that offers many avenues for mastering course content. Although it is not clear that science teachers ask their students to spend much time reading and learning from textbooks (Armbruster et al., 1991), this aspect of learning in the science classroom may be particularly problematic for both LD and non-LD students, particularly in the grades when they are first learning how to read science textbooks. A further question is whether LD students are less able than their peers in some of the reading-related skills needed for effective textbook comprehension.

For purposes of designing effective instruction and ensuring the appropriateness of assigned work, teachers need to have meaningful ways for assessing their students' comprehension of their science textbooks (Zigmond & Miller, 1986). One method is to use curriculum-based assessment, which uses materials that are part of the course curriculum as the basis for teacher-made tests; one advantage of this approach is that the results give a valid basis for inferring the need for instructional modifications (Salvia & Hughes, 1990).

In the following study, a curriculum-based assessment (CBA) instrument was devised using fourth- and sixth-grade science textbooks to assess the development of relevant reading-related skills. The premise was that performances of fourth- and sixth-grade LD and non-LD students on such a CBA science test might indicate problematic aspects of science reading.

The Development of Reading Skills in Science

By fourth grade, students are ordinarily expected to be able to use reading to learn course content. The concept of using reading to learn should not be taken to imply that students do not need guidance to develop the skills and strategies necessary to read science textbooks. Science texts have received considerable criticism because they are judged to be "inconsiderate" to their readers (Armbruster & Anderson, 1988).

Students might benefit from instruction and/or guidance in reading science texts, but such instruction or guidance is seldom given (Armbruster et al., 1991; Konopak et al., 1990). For this reason, in their first years of independent reading (grades 4 through 6), both LD and non-LD students may find it difficult to perform well on tasks that require comprehension of the science passages.

By sixth grade, students have generally developed proficient word recognition skills and strategies; these allow them to understand passages as well by reading as by listening (Sticht & James, 1984). Many students with reading problems have significant delays in the development of word recognition skills, but average to above-average listening comprehension skills (Aaron, Kuchta, & Grapenthin, 1988; Spring & French, 1990; Stanovich, 1992). The presumption that they have good listening abilities is one argument for placing them in content-area classes where learning is not exclusively reliant on reading textbooks; science is one such area. This raises the question of whether LD students do demonstrate average to above-average listening capabilities when presented with science passages.

Researchers characterize science textbooks as being dense and somewhat abstruse. One reason is the unfamiliar vocabulary (Konopak, 1991). Technical or scientific terms are introduced at a relatively rapid rate in science texts, and students find many of these terms hard to pronounce and remember. Although some of these words are defined or explained in the text, the definitions may not convey sufficient meaning to the students. Other words, often of a less technical or scientific nature but important to the topic, are not defined and may be unfamiliar to the students. A second reason that science texts are often dense is that some background knowledge is often implicit in the explanations of phenomena (Meyer, 1991). A third reason is that the logical relations of ideas may not be signaled. The sentences are typically short (perhaps to keep the readability level low), but transitions and other devices of cohesion are used sparingly (Armbruster & Anderson, 1988; Woodward & Noell, 1991).

Given these characteristics of science textbooks, it seemed likely that identifying words, knowing or inferring word meanings, and following the logical development of ideas in passages would play a significant role in the process of constructing meaning from science passages. Thus, a CBA with reading subtests of (a) word recognition, (b) vocabulary, (c) comprehension of passages by listening, and (d) comprehension of passages by reading might inform us about LD and non-LD students' ability to read science passages effectively. The inclusion of tests of listening and reading comprehension would also provide a way to test the assumption that LD students might be weak in reading but would have good comprehension of passages by listening.

The goals of this project were threefold. One was to look at the extent to which word recognition, vocabulary, and listening account for variance in the students' reading comprehension of science passages at the fourth- and sixth-grade levels. This would allow us to determine the subskills that contributed most to comprehension in these textual environments. The second goal was to determine whether LD students in the fourth and sixth grades appeared to have significant difficulties in some or all aspects of our science CBA. The third goal was to investigate the assumption that a number of LD students are better at listening than reading, and so might be able to learn more by listening than by reading.

METHOD

Subjects

Sixty-nine LD and non-LD students from four schools in one school district in a city adjacent to Chicago participated in the study. The ethnic background of the students was diverse, but most heavily represented by African-American (43.8% and White (47.9%) students. Thirty-one fourth graders (9 LD, 22 non-LD) and 38 sixth graders (13 LD, 25 non-LD) agreed to participate in the project. The LD students were previously identified as having specific learning disabilities, according to the criteria in Illinois state regulations; all were currently receiving special education services. The district is dedicated to placing students in the mainstream classroom setting.

All students were given two standardized subtests of reading from the Woodcock-Johnson Achievement Battery (Woodcock & Johnson, 1989), Letter-Word Identification and Passage Comprehension. The performance (standard scores) of the non-LD students was significantly better than that of the LD students at both grade levels. On the Letter-Word subtest at the fourth-grade level non-LD students performed significantly better (M=120.9, SD=14.9) than LD students (M=84.3, SD=10.4). At the sixth-grade level, non-LD students also performed significantly better (M=110.2, SD=16.4) than LD students (M=95.2, SD=15.6). On Passage Comprehension at the fourth grade level, non-LD students performed significantly better (M=116.4, SD=10.3) than LD students (M=92.9, SD=8.4). At the sixth-grade level, non-LD students also performed significantly better (M=111.2, SD=15.8) than LD students (M=92.3, SD=7.4).

Materials

Listening and reading passages. Four passages were chosen from the Silver Burdett *Science* textbooks for Grades 4 and 6 (Mallinson, Mallinson, Smallwood, & Valentino, (1984/1985). In each book, two passages were taken from two topics that had not been used for instruction: oceans and plant survival for Grade 4 and the earth's crust and space exploration for Grade 6; each passage was 250–300 words long. Readability tests (Fry & Raygor) were used to identify two passages that were at or below grade level and two somewhat above grade level; these we termed "easy" and "difficult" passages. However, since no differences were found on the students' performances on the easy and difficult passage at either grade level (p>.05), the two types were collapsed for purposes of assessing passage comprehension.

Selecting a method of assessing comprehension is a problematic aspect of devising a CBA (Salvia & Hughes 1990). Sentence verification was chosen because it does not require expressive language. Instead, it entails judging whether test sentences present ideas that were or were not in the passage (Carlisle, 1989; Royer, Hastings, & Hook, 1979).

The types of test sentences used in the verification test were selected to assess the ability to understand individual sentences and to integrate and grasp the relationship of ideas in a passage. These were the ability to: (a) recognize ideas worded in a different way (*Paraphrase*), (b) summarize information or integrate ideas (*Integrated Sen-*

tences), (c) detect misstatements that sound as though they came from the passage (*Surface-Level Teasers*), and (d) recognize information not within the topical boundaries of the passage (*Nontopical Information*). The sentences were presented in random order. The Listening subtest was presented by audiotape. Each passage was used for both Listening and Reading in a counterbalanced design.

Word recognition test. Twenty words were selected from the science passages to constitute a test of word reading. The word list included words of two to four syllables; a few at each grade level contained an irregular element (e.g., "certain" for fourth grade and "strengthens" for the sixth grade). The words were selected to be moderately common in the students' texts; the mean Standard Frequency Index (SFI) for the fourth-grade words was 53.0 (SD=7.2) and for the sixth-grade words it was 53.6 (SD=5.3) (Carroll, Davies, & Richman, 1971). An SFI of 50 indicates that the word is estimated to appear once in every 100,000 words of texts for Grades 3 through 9.

Vocabulary. This subtest assessed knowledge of words used in the passages and words that were central to the comprehension of the passages. Some were explained in the text (e.g., "resource" in a fourth-grade passage), whereas others were not. Examples of fourth-grade words are "resource," "tide," and "energy"; examples of sixth-grade words are "continent," "theory," and "fossils." The students were asked to give the meaning of the word orally. Definitions were scored for quality and accuracy of response, using a descending 5-point scale: Complete, Partial, Context Only, Incorrect, and No Response. The students defined the words either before or after they were given the listening and reading passages subtests, but their definitions did not differ based on time of administration, $p>.05$. Further, better definitions were not associated with more explicit explanation of the term in the text.

Procedures

Each student participated in two 30-minute testing sessions. In one session, the student was given the CBA Listening and Reading Passages, Word Recognition, and a picture interpretation task; in the other session, the student was given the Woodcock-Johnson subtests, the CBA Vocabulary subtest, and a questionnaire. (Results of the questionnaire and picture interpretation task are not included in this report.) The order of the testing sessions was counterbalanced, but order of administration did not affect test performances.

RESULTS

Accounting for Variance in Reading Passages

Pearson correlations of Word Recognition and Reading were .36 for the fourth grade and .32 for the sixth grade; correlations of Vocabulary and Reading were .25 for the fourth grade and .60 for the sixth grade; and correlations of Listening and Reading were .72 for the fourth grade and .52 for the sixth grade. A stepwise multiple regression was carried out at each grade level to determine the extent to which CBA Word Recognition, Vocabulary and Listening Passages accounted significantly for variance in Reading Passages.

For the fourth graders, Listening Passages and Vocabulary contributed significantly to the equation, accounting for 56% of the variance, $F(2, 25)=15.67$, $p<.001$; Listening Passages entered the equation first and accounted for the larger portion of the variance. For the sixth graders, Listening Passages and Vocabulary contributed significantly to the equation, accounting for 43% of the variance, $F(2, 34)=12.89$, $p<.001$; Vocabulary entered the equation first, accounting for the larger portion of the variance. Word Recognition did not contribute significantly at either grade level.

Performances on the Science CBA Subtests

The second question was whether the LD and non-LD students at the fourth- and sixth-grade levels differed in their performances on the subtests of the Science Comprehension Test. Table 1 shows the CBA subtest performances. (Because the tests at the two grade levels were entirely different in content, performances were not compared across grade levels.) For the fourth graders, the LD and non-LD groups differed significantly on Word Recognition, $t(30)=5.694$, $p<.001$; Listening Passages, $t(30)=3.956$, $p<.001$; and Reading Passages, $t(30)=2.768$, $p<.01$; the group difference on the Vocabulary subtest was not quite significant, $t(30)=1.972$, $p=.06$. For the sixth graders, the LD and non-LD groups differed on Word Recognition, $t(37)=3.588$, $p<.001$, and Listening, $t(37)=2.152$, $p<.05$. On the Vocabulary subtest, the group difference approached significance, $t(37)=1.849$, $p=.07$; however, on the Reading subtest, the observed difference in the means was not significant, $t(37)=1.456$, $p=.15$.

Comparison of Listening and Reading Performances

The third question involved comparison of the LD and non-LD students on the CBA Listening and Reading Passages. Pearson correlations of Listening and Reading

Table 1

Comparison of LD and Non-LD Fourth and Sixth Graders' Performance on Subtests of the Science Comprehension Test (Mean % Correct)

Group	Word Recognition	Vocabulary	List Passages	Reading Passages
Grade 4				
LD	58.3	60.0	61.2	72.3
(n=9)	(25.5)	(5.8)	(16.4)	(10.3)
Non-LD	91.6	69.1	81.7	84.0
(n=22)	(7.3)	(13.2)	(11.3)	(10.8)
Grade 6				
LD	70.4	51.1	66.3	74.4
(n=13)	(19.9)	(10.7)	(13.0)	(13.6)
Non-LD	90.0	61.3	77.3	80.3
(n=25)	(13.3)	(18.2)	(15.5)	(11.1)

Passages were significant for the fourth grade, $r=.73$, $p<.001$, and the sixth grade, $r=.52$, $p<.001$. The performances on these subtests were standardized (transformed to z scores) and performances in both modalities, relative to the group, were examined. For the fourth grade, all of the LD students except one (89%) were below average in both listening and reading performances; three non-LD (20%) were also below average in both. No LD student was significantly better at listening than reading. In the sixth-grade group, one LD student was above average in Listening but below average in Reading; three LD students were above average in Reading but below average in Listening. Five LD students (38%) and seven non-LD students (28%) were below average in both areas.

DISCUSSION

Performances on the Science Subtest

A common view of reading comprehension is that it is a function of word recognition and language comprehension skills (Gough & Tunmer, 1986). The regression analyses on the science CBA indicated that listening comprehension contributed significantly to the variance in reading comprehension of the science passages at both grade levels, vocabulary contributed significantly at the sixth-grade level, but word recognition did not make a significant contribution at all. The scores on the Word Recognition subtest show that the non-LD students were very accurate at reading the words; a relative lack of variability in performance may have made word recognition less significant in accounting for variance in reading comprehension. Perhaps the major finding here is that listening is so significant in accounting for variance in the reading comprehension of science passages.

The results indicate that in a number of the areas assessed, the LD students were significantly weaker than their peers. Specifically, at the fourth-grade level, the LD and non-LD differed in Word Recognition, Listening Passages, and Reading Passages. At the sixth-grade level, differences between the LD and non-LD groups were found for Word Recognition and Listening Passages. At both grade levels, the definitions differed in quality and accuracy, but the difference did not reach significance.

Although these results indicate that the LD students did not bring as proficient a set of skills to the understanding of science texts as their classmates, the non-LD students had some difficulties reading science passages also. For example, in the sixth grade, 28% of the non-LD students had relative difficulties understanding both the listening and reading passages. Conversely, some LD students had adequate skills on the CBA subtest. Thus, the results suggest that one value to assessing reading-related skills in science is to determine which students (LD or non-LD) and which types of reading-related skills are giving students difficulties.

Relative Strengths in Listening and Reading

The data were examined to see whether some LD students were good at comprehending by listening, even when they might not be average to above average in reading. We found such dissociation only in the sixth-grade group. Three LD students appeared to understand the science passages better by reading rather than by listening, but only one LD student was above average in listening while below average in reading. These results do not support the belief that LD students with poor reading skills can compensate for this weakness through strong listening capabilities. One problem may be that science passages are so dense that they are difficult to understand by listening. Some support for this interpretation can be seen in the weaker performances in listening than reading at both grade levels. Nonetheless, the LD students had more difficulty understanding by listening than their peers.

Further Considerations

Fourth and sixth graders' performances on the science CBA used in this project indicate that a number of LD students (and some non-LD students) may be at risk for significant difficulties in one or more aspects of the reading skills they need for successful comprehension of science textbooks. The importance of this finding is diminished if science teachers do not use textbooks to present information in science classes. However, by high school, students generally must be able to read and understand complex science texts independently. How they can acquire the necessary skills if they are not asked to learn by reading and if they receive no assistance in the process continues to be a question of educational relevance.

Learning in science classes is considered to be multimodal and multidimensional (Scruggs & Mastropieri, 1993). Even if reading is not heavily relied on, listening certainly is. The focus on listening in this project was necessarily limited to comprehension of passages from the science textbooks. Particularly since so many students were found to have difficulty understanding the passages by listening, further investigation of students' ability to learn by listening seems warranted. The usefulness of the type of CBA used in this project must also be explored further. A crucial question is the value of information gleaned from such an assessment not only to the science teacher but also to the special education teacher whose job it is to monitor the LD students in their mainstream classes.

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THE EFFECT OF TEACHING STRATEGIES FOR READING COMPREHENSION TO POOR READERS AND THE POSSIBLE SURPLUS EFFECT OF ACTIVATING PRIOR KNOWLEDGE

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Poor comprehenders are often described as passive readers. They monitor their ongoing comprehension less actively than good comprehenders and are less capable of using strategies when they notice a failure to comprehend. Their awareness of comprehension fostering activities is low, they use fewer strategies and use them less flexibly (Bristow, 1985; Brown & Palincsar, 1989; Forrest-Pressley & Gillies, 1983). Therefore, instruction in reading comprehension should focus on teaching these poor comprehenders how to control and regulate their reading process.

In the materials of most reading curricula in the Netherlands, however, there is a lack of directions and suggestions for teaching strategic reading. Recent research (Reitsma, in press) has shown that both in regular education and in classrooms for learning-disabled pupils "instruction" still consists primarily in getting students to answer questions about a text. Teachers rarely provide explicit instruction to children on how to use comprehension strategies while reading. Therefore, the local context more than warrants a study which might demonstrate the feasibility of teaching strategic reading.

The present study examined the effects of teaching comprehension-fostering strategies to pupils with severe problems in reading comprehension. Instruction focused on an active and self-regulating role of the child in the reading process. The goal was to improve children's awareness and use of the following strategies: clarifying the purpose for reading to determine the appropriate approach; making predictions about the text and evaluating them; activating background knowledge to create links between what is already known and the information in the text; using control activities by self-questioning in order to control ongoing comprehension; allocating attention to the main ideas; and summarizing and interpreting the information given in the text (Palincsar & Brown, 1989; Paris, Cross, & Lipson, 1984). The instruction in strategies was pupil- and process oriented. That is, the final goal of the instructional program was the independent use of strategies by the pupil. In order to achieve this goal, explicit instruction and modeling was given (Pearson & Dole, 1987). Moreover, to encourage active involvement of the students in the learning process, principles of reciprocal teaching were followed (Palincsar & Brown, 1989).

One component of the strategy training was examined more closely: background knowledge activation. It is generally acknowledged that prior knowledge can be of great importance to reading comprehension (Schallert, 1991). Assuming that poor readers do not always have sufficient background knowledge, instruction often focuses on providing relevant information in order to better understand a specific text. For example, the teacher gives a preview, introduces the important vocabulary, or provides a conceptual framework. These procedures of activating background knowledge may have positive effects on the understanding of a specific text. However, there is no evidence of transfer effects to other texts which children read independently (Dole, Valencia, Greer, & Wardrop, 1991). Instruction in which children are trained to independently activate their own background knowledge would probably have more potential for transfer. Therefore, this study addresses the effect of prior knowledge activation when taught as a pupil- and process-oriented strategy.

To examine the relative surplus effect of prior knowledge activation, two groups of children participated in the intervention program and received instruction in the strategies mentioned above, except that in one of the groups no explicit instruction was given in prior knowledge activation. A third group of children served as a control group.

It was hypothesized that children who followed the experimental training program would increase their awareness and declarative knowledge of strategies. Consequently, this could have a positive influence on the comprehension process and would therefore lead to better performances on reading comprehension tasks. However, it cannot be hypothesized without reservations that poor readers will benefit from self-regulated activation of prior knowledge. Although activating and using prior knowledge certainly can help a child to better understand a text, it can also have negative and distracting influences. For example, when incorrect or irrelevant prior knowledge is activated, it could divert the pupil's attention from the specific content of a text and could consequently interfere with the comprehension process (Dole et al., 1991; Schallert, 1991).

METHOD

Subjects

The subjects were 24 Dutch children (18 boys, 6 girls) from two schools for children with learning disabilities associated with a clinic for intensive child care. They were selected according to the following criteria: age between 10 and 12 years (educational Grades 4–6); scores on a standardized Dutch reading comprehension test lower than the mean score of a group one year lower; decoding skills at a minimum third-grade level; and a minimum verbal IQ test score of 80.

Twelve pupils were randomly selected as a control group, whereas 12 others followed the experimental program with 6 children in each condition. Three children from each school were randomly assigned to each of the experimental conditions. There were no statistically significant differences between the mean scores of the control and experimental groups with regard to the selection criteria. Thus, the three groups were comparable with respect to decoding abilities, preexperimental comprehension scores, verbal IQ scores, and age.

Procedure

A pretest-posttest control group design was followed. Moreover, 4 weeks after the posttest delayed measures were administered. Instruction was given for approximately 7 weeks. Tests were administered individually or in small groups, and were scored by the experimenter.

The experimental program consisted of 13–14 lessons, each taking about 35 minutes. Instruction was given outside the classroom by the experimenter, mostly during regular reading lessons in the classroom. The children attended the experimental lessons in groups of three. The children in the control group followed their normal program.

Instruments

Due to the fact that there has been little or no tradition on strategic reading in the Netherlands, there is a lack of tests that are sensitive to strategic reading. Moreover, even (traditional) standardized tests for reading comprehension are few and far between. Therefore, there were some difficulties in selecting adequate instruments to answer the research questions. In order to determine the knowledge of strategies for reading comprehension, a questionnaire was developed even though standardized tests (for the purpose of attaining reliable results on reading comprehension performances) were used. Of course, these tests were sensitive only to indirect effects of the use of reading strategies. Great pre-post differences on these measures, as a result of the experimental treatment could not, therefore, be expected. The experimental questionnaire contained 15 statements describing 12 relevant and 3 irrelevant strategies which can be used before, during, and after reading. An example of one item in the questionnaire is: "Before I start reading, I first think about what I already know about the subject." The items were of dichotomous agree-disagree types, and the maximum score was 12. The coefficient for item consistency (KR20) was .72. Performance in reading comprehension was determined by a standardized Dutch cloze test. The test consists of one text of approximately 400 words with 50 blanks (corresponding to each seventh word). The time limit for test completion is 35 minutes. The mean score for normal readers in Grade 4 is 34, and the full range of possible scores is 0–50. Tests administered at the pre-, post-, and maintenance measurement were respectively the A-, B-, and A-forms. Reported coefficients for item consistency (KR20) are .86 for the A-form and .85 for the B-form. The correlation between parallel versions is .75.

A standardized Dutch test for main ideas was also administered. This test, with parallel versions, consists of 29 short texts of which the main idea must be chosen from four alternatives. The time limit for test completion is 70 minutes. The mean score for normal fourth-grade readers is 19, and the full range of possible scores is 0–29. Tests administered at the pre- and post-measurement were respectively the A- and B-forms. Reported coefficients for item consistency (KR20) are .89 for the A-form and .90 for the B-form. The correlation between parallel versions is .75. Because of time constraints, this test was not used at the maintenance measurement.

Program

The following set of strategies was selected to be taught in the experimental program: setting a purpose for reading; making predictions about the content; activating background knowledge; controlling comprehension; selecting important ideas; and summarizing and evaluating (Palincsar & Brown, 1989; Paris et al., 1984). These strategies were introduced step by step and were described in concrete questions for the pupils, for example: "Why am I going to read?" and "What is the text probably about?" The contents of the lessons were sequenced in a cumulative fashion: the number of applied strategies increased steadily. At the start, the first strategy was introduced and practiced. Thereafter, the second strategy was presented, while the first strategy continued to be repeated and practiced. In a subsequent lesson the third strategy was introduced, while the strategies introduced earlier were also practiced, and so on. Each strategy was also visually supported by means of an illustration and presented on a series of "help cards." Each new card contained the strategies introduced earlier, and was extended by the strategy which was introduced and discussed during the particular phase of the intervention. All strategies were practiced while reading expository texts, which were age-appropriate and challenging in content.

Lessons were based on principles of direct and explicit instruction (Pearson & Dole, 1987) and comprised of the following phases: (a) repeating relevant knowledge from previous lessons; (b) explaining the aim of the new lesson; (c) modeling the use of a strategy; (d) guided practice; (e) independent practice; and (f) paraphrasing the new information of the lesson. During the independent and guided practice phases, the procedure of reciprocal teaching was followed (Brown & Palincsar, 1989). With reciprocal teaching, the children and teacher take turns leading the dialogue about the text and its meaning, breaking the text into segments while applying the strategies. Responsibility for the monitoring activities shifts from the teacher to the pupils.

The manipulated strategy, "activating background knowledge," was only taught in one experimental condition. By means of the question "What do I know already about the subject," pupils were stimulated to activate their prior knowledge before reading the text. By modeling the strategy, the teacher stressed that only relevant background knowledge should be used. Thus, students were taught to monitor the relationship between their topic-related knowledge and the content of the text. This point was emphasized because poor readers often tend to use whatever comes to mind (McCormick, 1992).

RESULTS

The mean observed scores of the experimental and control groups on the various measures are presented in Table 1. It is clear that the experimental group both increased their knowledge of strategies and improved their performances on reading comprehension tests. This upward tend was not observed for the control group.

The observed trend in favor of the experimental group was verified in statistical analyses. First, ANOVAs on the pretest scores were done, which revealed no statistically significant differences between groups before the intervention started. Next, a MANOVA with repeated measures was performed on the results of the pre- and posttests. The assumptions of a multivariate repeated measures analysis of variance for two groups are: (a) independence of the observations, (b) multivariate normality, and

(c) multisample sphericity (sphericity and homogeneity of the covariance matrices for the different levels of the between factors). The nature of this treatment study, with small groups of children, could possibly lead to correlated observations (the achievement of the subjects are not independent of the other children in the group). Therefore, we tested at a stringent level of significance ($p=.001$). The assumption of multivariate normality was not seriously violated. Examination of the skewness and kurtosis coefficients and the Shapiro-Wilk statistic for all variables indicated no significant deviations from normality. Furthermore, Box's test of homogeneity and the Mauchly sphericity test showed no violations of the third assumption of multisample sphericity (Stevens, 1992).

The repeated measures analysis revealed a statistically significant interaction effect between group and repeated measures, according to Wilks' Lambda, $F(3, 20)=12.9$, $p<.001$. Examination of the univariate analyses of variance with repeated measures revealed statistically significant interaction effects for two dependent variables: the questionnaire, $F(1, 22)=19.5$, $p<.001$, and the cloze test, $F(1, 22)=21.2$, $p<.001$, respectively. The interaction effect for the main ideas test was not statistically significant at the appropriate, stringent level, $F(1, 22)=6.7$, $p<.017$.

The proportion of variance which was due to the treatment effect was also determined. Estimated treatment effects on the questionnaire, the cloze test and the main idea test were $w=.43$, $w=.37$ and $w=.12$, respectively. Longer term effects were also examined with a MANOVA on pre-, post-, and maintenance measures for two dependent variables. This analysis also revealed a statistically significant interaction effect between group and repeated measures in favor of the experimental group, Wilks' Lambda, $F(4, 86)=7.8$, $p<.001$. Examination of the univariate analyses of variance with repeated measures revealed statistically significant interaction effects for both dependent variables: the questionnaire, $F(2, 22)=14.0$, $p<.001$; and the cloze test, $F(2, 22)=8.1$, $p<.001$, respectively. Estimated treatment effects on the questionnaire and the cloze test were, respectively, $w=.37$ and $w=.12$. Several additional analyses were performed with decoding skill, age, and verbal IQ as covariate measures, but

Table 1

Mean Scores of the Control and Experimental Groups

	Control Group $n=12$			Experimental Group $n=12$		
	Pre	Post	Maintenance	Pre	Post	Maintenance
Questionnaire						
M	5.4	5.3	4.5	6.9	11.2	9.3
SD	3.6	3.3	3.2	2.9	1.2	1.6
Main Ideas						
M	11.4	11.6		8.0	13.3	
SD	7.0	8.1		3.2	3.3	
Cloze						
M	23.7	20.4	25.3	22.7	27.3	30.0
SD	6.1	4.8	6.8	6.0	5.9	5.5

these analyses did not change the results reported above.

To answer the question about the surplus effect of the prior knowledge activation in the strategy training, the differences between the two experimental conditions were examined. The mean scores of the two experimental groups on the different tests are presented in Table 2.

The results indicate that both groups increased their knowledge of strategies and their scores on the reading comprehension tests. There seems to be a small positive trend in favor of the first condition, which included the instructional component of prior knowledge activation. Since group sizes were rather small ($n=6$), nonparametric tests were applied in order to examine the differences between the two experimental conditions. A Mann-Whitney U-Wilcoxon Rank Sum test on the difference scores (posttest minus pretest scores) indicated a significant difference between groups on the cloze test, $U=5.5$, $p=.04$. There were, however, no differences found on the questionnaire ($U=8.5$) and the main ideas test ($U=16.0$).

Also, longer term effects were examined on pre-, post-, and maintenance measures. A test on the difference scores (maintenance minus pretest scores) revealed a significant difference between groups on the questionnaire, $U=3.0$, $p=.02$, but there was no difference found on the cloze test ($U=8.5$).

DISCUSSION

The findings in this study strongly indicate that instruction in comprehension monitoring strategies was very effective for the poor readers. Pupils who followed the experimental program showed an increase in awareness of strategies for reading comprehension. This positive effect was still observed 4 weeks after the training.

Of course, improvement in awareness and knowledge of strategies is not a final goal. A more important issue is whether this increase in awareness has a positive

Table 2

Mean Scores of the Two Experimental Conditions

	Condition 1 With Prior Knowledge ($n=6$)			Condition 2 Without Prior Knowledge ($n=6$)		
	Pre	Post	Maintenance	Pre	Post	Maintenance
Questionnaire						
M	6.0	11.7	10.0	7.8	10.7	8.7
SD	3.5	0.5	1.6	2.1	1.5	1.5
Main Ideas						
M	8.0	14.3		8.0	12.3	
SD	3.9	3.4		2.8	3.2	
Cloze						
M	21.3	28.3	30.3	24.0	26.3	29.7
SD	2.2	3.9	5.2	8.3	7.7	6.4

effect on performances on reading comprehension tasks. The present findings clearly indicate that pupils who followed the experimental instruction performed better on tests of reading comprehension, compared to children who attended regular reading lessons. Moreover, 4 weeks after the intervention this higher level of comprehension scores could still be observed. These findings are in line with conclusions from other instructional studies about strategies (Palincsar & Brown, 1989; Paris et al., 1984).

Similar to the instructional studies done by Palincsar and Brown (1989), principles of reciprocal teaching were used in the present experimental program. It is clear that reciprocal teaching provides excellent possibilities for pupils to be more active learners and readers. However, the design of the present study does not provide evidence about the relative importance of this aspect of the training. It would be interesting for future research to examine the relative importance of this component of the program.

This study also addressed the question of possible surplus effects of prior knowledge activation. The findings indicate that pupils in both experimental training groups benefited from instruction, but the differential effect was not stable. Of course, only a small group of children participated in this study. Moreover, the tests used as dependent variables asked for prior knowledge activation only indirectly or incidentally. Therefore, an important effect on these measures should not be expected (see Paris et al., 1984, for a discussion about the inappropriateness of standardized, norm-referenced measures to establish effects in classroom interventions studies).

The poor readers in this study found it difficult to activate and use their prior knowledge independently. One problem was that activation of background knowledge often resulted in summing up whatever came to their minds. This was, of course, time- and attention-consuming, and therefore not always effective. Another problem with using prior knowledge was that it sometimes diverted attention and interfered with comprehension, especially when irrelevant or incorrect knowledge was activated. Although the use of only relevant topic-related information was modeled during the instructional sessions, it was difficult for these children to make decisions about the relevance of their prior knowledge on their own. Within the constraints of the present study, relatively little time could be spent on the mastery of this strategy. Given more time for instruction and training, pupils could have benefited more from the specific instruction in prior knowledge activation to a greater extent.

In summary, this research corroborates earlier findings which indicate that it is possible to significantly raise the reading comprehension ability of disabled readers by directly and explicitly teaching them relevant strategies. Future research could be directed at examining the effects of teaching some of the strategies in isolation or in combination, in order to determine the relative importance of the various strategies.

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CONSTRUCTING COMMUNITY AND INTERTEXTUALITY IN ELECTRONIC MAIL

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Undergraduates in my teacher education courses form inquiry groups to explore a topic of their choice concerning their future lives as literacy teachers. Over the semester, they meet outside of class, discuss self-selected readings and past experiences, and write an article. Their articles are compiled into a book which we all buy, read, and discuss at our final class meetings. This curricular structure supports students' connections between ideas, similar to the intertextual linking of students in literature circles (Short, 1992). With 38 students in the Fall 1991 semester, we (I team taught the class with Elizabeth Martin) decided to explore the potentials of the inquiry groups in an electronic mail environment. Cohen (1986) suggested that computer networks were excellent environments for nonartificial writing because networks have audiences beyond the grading teacher. So, over the 10 weeks of the course, 10 groups of students formed around a broad range of self-determined topics, shared ideas or quotations from various sources, and responded to each other's messages.

The pattern of communication varied across the groups. Figure 1 presents a ribbon for each of the 10 groups, the group topics with the total number of messages, and a ribbon for the average number of messages sent each day. Some of the variation could be attributed to task, life, and technological constraints. The task requirement of writing 10 messages and 10 replies per person did not specify any regularity for communication; therefore, some groups exhibited patterns of peaks and valleys. For example, the Young Adult Issues group and Aliteracy group have the highest peaks on October 31, 1991 because they were reminded in class that the inquiry group project was going to end on that day. Jack highlighted the requirement issue:

> hey! how many moire articles do you have to send? it seems as if you've sent a million already, not that i'm saying that i don't find your mail interesting. (JRK116, 8-10-91, 15:05, Group 1. Note 63: Re: to add to that last letter)

Therefore several students seem to have been motivated mainly by task constraints rather than any community need to discuss educational issues.

Life constraints also impacted the frequency of messages. Students were involved in at least four other courses, employment, and home responsibilities. Tasha's message sums up how life constrained the time available for making the trip to the university computer lab (only a few had modems at home) to use electronic mail:

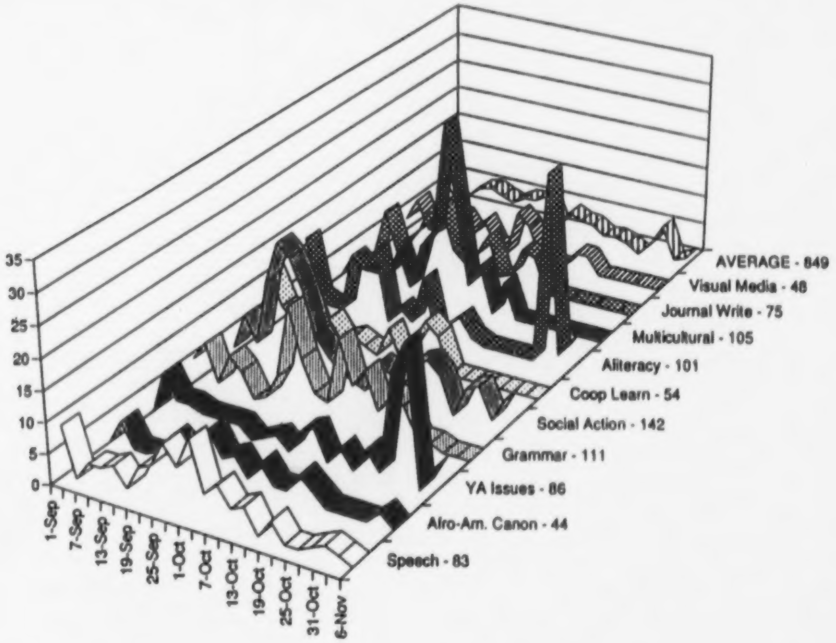

Figure 1 Frequency of E-Mail

> my god, have you people no lives? do you sleep with the computer monitor beside you? just bustin'. actually you had a lot of very pertinent things to say. not that i'm going to reply to all or even most of them. i, contrary to you hackers, have a life. (TJR109, 10-10-91, 15:06, Group 1, Note 67: finally replying)

Although technological constraints were minor, Lisa illustrates the most frustrated new users of the network in her first note:

> I'M IN THE LAB IN SPARKS READING MY MAIL WHEN THIS STUPID SYST EM FROZE ON ME AT LEAST TEN TIME!!!!I'M GOING TO WRITE TO EVERYONE BEFORE I LO SE MY MIND WITH THIS-----COMPUTER!! AND SOME FOOL IS ACROSS FROM ME PLAYING A GAME WITH LOUD SPEAKING. I KNOW MY VERBS AREN'T RIGHT BUT I'M FRUSTRATED AND THE WORST THING FOR AN ENGLISH TEACHER IS NOT TO BE ABLE TO FIGURE OUT HOW TO EDIT HER WORK. (LAM154, 10-9-91, 16:19, Group 5, Note 13: FIRST MESSAGE)

However, only three days later Lisa sent her group members this note:

> HELLO ALL! I am anxious to tell you about an article called "Teaching and LEarn ing Values." First, thanks to all of you for being patient with me whileI tried to figure this system out. I am trying to get caught up now that have a 'puter hooked up at home. Thanks for your support, group! (LAM154, 13-9-92, 21:02, Group 5, Note 27: responses and new info on values)

Beals (1991) suggests that "beginning users often report feeling initially uncomfortable with a network's technology and communicative style. Research has suggested, however, that initial discomfort can be quickly overcome by the presence of preexisting relationships between members of the network" (p. 75). The students in this network did establish relationships with each other in prior course work, and in face-to-face meetings during the 6 hours of class each week, which were relied on to overcome technological constraints.

Complex constraints beyond task, life, and technology are needed to explain the varied frequency of group communication. This article will only explore the inquiry community and thinking constructed in one group, "Speech," whose three members (Tasha, Beth, and Jack) communicated 83 times with fairly regular frequency across the 10 weeks. Examining the character of their thinking is essential to understanding students' value for e-mail in the construction of knowledge about teaching, and to designing future electronic structures which maximize the potentials of e-mail in the construction of inquiry communities.

THEORETICAL AND ANALYTICAL FRAME

I define inquiry as the semiotic depth of explicated signification. No idea or experience can mean something in and of itself, but only in relationship to other ideas and experiences. The activity of inquiry, then, is the explication of links between ideas and experiences to signify the possible meanings of some focal idea or experience. That focal idea or experience is said to be mediated in connection to a web of connected ideas and experiences. This semiosis continues infinitely across all ideas and experiences, as well as time, making it probable that all ideas and experiences are continually reinterpreted, or mediated, in new experiences and ideas. This semiosis does not occur in just speech or writing, but happens in all forms of human expression of meaning. However, it is in literacy that the utterance as artifact helps explicate links that layer the intertexts of knowledge. The accumulation of written text allows thought to reread and renegotiate meaning between the texts that refer back and forth to each other in deepening intertextual webs of significance. Intertextuality is a (perhaps key) semiotic characteristic of inquiry.

Given, this semiotic frame, I analyzed the content of the inquiry group e-mail messages for signs of shared membership and explicated connections between ideas. I segmented the e-mail messages into units which expressed a single idea (sometimes linked to another prior segment), using my sense of the meanings which the author intended to express. I leaned toward larger segments of words, rather than trying to dissect the language all the way down to a phrase level. Most of the e-mail messages leant themselves well to this analysis, resulting in breaks between paragraphs or groups of sentences. However, Tasha tended to pack multiple ideas within sentences, each connected in different ways to various prior segments. This packing (or synthesizing) made the coding of connections cumbersome at times, but not impossible.

Each segment was numbered, coded for type, and connected to prior segments. Connections were noted when authors explicitly pointed toward, or used the same wording as in prior segments. Different thinking actions in segments were identified and coded as: a quote or paraphrase from professional literature (L); a statement of experience (E); a teaching idea or activity (I); a theoretical belief (B); a request for response or help (R); a question (Q); a suggestion for a topical direction of the conversation (T); or a statement of social belonging (s).

Artifacts of an Inquiry Community

The 83 messages of the "Incorporating Speech" group were segmented into 123 units: 44 social and 79 idea oriented. Intertextuality cuts across social and idea-oriented units, but the distinction was made to look at the construction of community belonging (social units) as well as community knowledge (idea units). In the 44 coded social meaning units, signs of shared membership are strongly evidenced. Students (a) shared joys and frustration; hopes and doubts, (b) connected personnel and shared experiences, (c) sought responses to questions and ideas, (d) affirmed statements or belonging, (e) teased, made jokes, turned themselves into jokes, and (f) suggested values which they held in common. These symbolic actions of membership overlapped the intertextuality constructed in the other 79 idea-oriented segments. In addition to connecting personal and shared experiences, seeking responses to questions and ideas, and suggesting shared meanings and values for the community, students also (g) shared quotes and paraphrased ideas from the professional literature they chose to read, (h) justified ideas through statements of belief, and (i) challenged each other's meanings, and (j) elaborated and clarified group meanings.

The analysis of the group's conversation resulted in seven topical strands that represent the intertextual connections which were explicated: (a) Acquisition is a social activity with curricular consequences, (b) Not enough talk, so need relevance and curricular choice, (c) Speech basis of relationships so need to better express oneself requiring inner-speech and risk taking, (d) Learn content knowledge through talk, (e) Debate and questioning needed for socialization and democratic critical thinking, (f) Speech develops reading and writing and some speech activities for the classroom, (g) The fear of talk comes from student control, evaluation, and management concerns. These conversational strands began, disappeared, and were revived at different times during the linear sequence of the messages. An original goal of the research was to have the students analyze their e-mail messages and construct the major themes of their conversation. However, the demands of time for other course projects prevented this from happening.

Although space permits the description of only two strands, it is sufficient to illustrate the construction of community membership and intertextuality. Also to conserve space, an asterisk will be used by the number/code of any message unit in the following sections which has been cut from its original length.

Acquisition is a Social Activity and Curricular Consequences

In the first note of the group. Tasha begins the conversation with a joke about her experience reading mail misdirected from Beth last semester. then she shares the idea about language acquisition from Smith's (1988) *Joining the Literacy Club*. Tasha also socializes about her own experience trying to use e-mail and make it underline, and jokes about the group members' ability in e-mail to ignore her when she starts talking too much.

> 1S hello all. yes, i finally figured out now to use this puppy. (-) quick aside to beth-you sent a million messages to theresa using my user id last semester so she probably never got them. anyway, i had a small identity crisis when i got all these letters for theresa on my account, but i m ok now.
> 3L* there is an interesting idea about the importance of speaking and oral expression in relation to language usage and acquisition. the idea basically focused on the fact that students acquire language usage and other facets of their speaking abilities from others. to implement a great deal of speaking practice in the classroom would aid students in sharpening their oral communication skills both by giving them the opportunity to practice and develop these skills and also by allowing them to listen to others. i found this idea in joining the literacy club. (i put the title in quotations because i have no clue how to make this sob computer underline. anyway, i ll bring the book in sometime soon and we ll see what you guys think.
> 4S sigining off now (i m actually beginning to like this infernal system of communicating. i can t annoy anyone by talking too much. if you get tired of me you can simply stop reading.) see ya-tasha
> (TJR109, 4-9-91, 20:32, Note 1: an idea to ponder)

Ten notes were written in the group before Beth connects to the idea of language acquisition (3L) through the social aspect of everyday conversation, not just public speaking. Beth expresses her idea that the classroom curricula should consist of just plain conversation and sharing in the way we first learned to talk as children and cites a quote from Moffett (1988) which supports the social interactive base of learning language (26L). She extends the intertext of Tasha's idea through another quote from Moffett connecting an institutional problem of taking the whole natural experience of conversation with other people and fragmenting it into separate skills to be taught (25L).

> 25L Well, I read more Moffett. I really like what this guy has to say. The article I read this time was titled "MAking Schools Pay Off or A Student-Centered Language Arts Curriculum." Good ol' Jim argues that children do their most import ant learning before they even get to school (i.e. talking-how fitting) it's merely the schools job to "open up all the ways and means by which a child can CONTINUE to exercise these faculties." A student's problem is not a LEARNING problem, but an INSTITUTIONAL one. (-) Jim says two things are needed to teach language - individualization (vs. uniformality) and the veiw of language as a whole unit (not fragmented parts such as oral skills or grammar) I think that we all belive in these two things, at least that is what i have gathered from our conversations.
> 26L The speech I talk about incorporating in my class is not public speaking or linguistics. It is conversation and sharing in the way we learn first as children, talking. (-) I think this quote says it-"Language is so thoroughly social in origin and function that it cannot be learned without interaction." (EIL100, 11-9-91, 20:09, Note 11: More MOFFETT: making schools pay off)

In the 10 notes written before Beth links and begins this conversational strand, 9 segments were social, 8 connected to the topical strand "Not enough talk so need relevance and curricular choice" (examined below), and 4 connected to the strand "Speech basis of relationships so need to better express oneself requiring inner-speech and risk taking." A brief examination of the social segments highlights some of the ways in which the students invited shared membership in an inquiry community in these early notes.

> 5S Hi guys. The beginning of our written communication relationship. How sweet. (-) Tasha-thanks for the note. I ll get back to you later on that. (EIL100, 4-9-91, 21:12, Note 2: Moffett s COMING ON CENTER)
>
> 9S i m really intersted in that aspect of english. incorporating drama and theater into the classroom is great. (-) i think of a great class i had in hight school that was actually a theater arts class and i think i learned more how to enjoy literature and any form of writing than i ever did in english class. (-) keep me posted scott, my fellow communications guy see ya, jack (JRK116, 4-9-91, 21:40, Note 4: reply to scott)
>
> 10S gee tasha, i m so glad you actually figured out how to use this thing. i must also add it s about time. (JRK116, 4-9-91, 21:44, Note 5: we re so happy for tasha)
>
> 13S beth, it sounds like you re onto something interesting. (JRK116, 4-9-91, 21:52, Note 6: reply to beth)
>
> 16S i m sure we re going to find some great info. for this project that will help us along the unsure path of teaching english. bye guys....jack (JRK116, 4-9-91, 21:52, Note 6: reply to beth)
>
> 17S boy steve, you re really on top of things already. keep me posted on what you find because i think it s interesting. i think it is important to keep in touch will all of the different groups because everything is so valuable. it s a shame we can t learn about all of these topics, but i guess over time we will be able to do it. i guess that s why we try to keep up on topics and new practices. well, keep me informed steve. see ya later,.......jack (JRK116, 4-9-91, 21:55, Note 7: good going steve!)
>
> 23S well, as life is just one big conversation, i ll talk to ya ll tomorrow tasha (TJR109, 11-9-91, 16:56, Note 9: can t think of what to call it)

In these various early comments Jack teases Tasha that it is about time she figures the system out (10S), he affirms the ideas Beth is sharing (13S), he shares his hope that they are going to find some great ideas to help settle their fears about teaching (16S), and he also is in contact with two other inquiry groups sharing ideas and asking that they keep him posted on what they find out (9S & 17S). Beth jokes about their sweet beginning e-mail relationship (5S), indicates a future conversation on the misdirected mail Tasha received (5S), and suggests beliefs which they all hold in common (25L). And Tasha connects to an idea shared earlier that life is just a "series of conversations," by layering the meaning with a humorous sign off line (23S), thus mediating the act of saying goodbye within the intertext being constructed in the group.

Several of the group's topical strands are originated in the month that goes by before the meanings in the "Acquisition" strand are further explicated. In segment 96L, note 58, Beth links, again through Moffett, the idea of whole-language experiences in which children explore their own concerns in literature and writing. Closing the note requesting some response as to its sense, Beth offers the group a focus on curricular consequences. Jack responds 2 days later in segment 100B, note 62, to Beth's request for response with a short note affirming her beliefs and promoting a community value of "that's what it's all about anyway," as well as taking the opportunity to tease Beth about "her uncle" Moffett, which Tasha is quick to pick up on and extend (107S).

> 96L I like what Moffett had to say about personal development. ""Furthermore,if the classroomlets students supply the content of language arts activites...shildren discover that many of the concerns they felt were peculiar to them are shared by many peers and so do not have to be pursued confidentially." They can then find these concerns in literature and explore them through writing-whole language. Does this letter make sense? (EIL100, 6-10-91, 18:19, Note 58: yes-more moffett)
>
> 100B sure it makes sense, beth. what's with you and Moffett anyway? is he your uncle or something? anyway, dialogue is neat,a nd of course we need it to learn. that's what it's all about anyway. well sounds good to me, so i'll see you later...jack (JRK116, 8-10-91, 15:02, Note 62: Re: yes-more moffett)
>
> 107S beth- about this moffett thing.. i think maybe counseling would be a good idea. you may have a pretty severe addiction.o.k. i found some pretty interesting stuff of my own (amazing isn t it?) (TJR109, 10-10-91, 15:06, Note 67: finally replying)

A few days later, Tasha refers to "one of the eight million letters" (always the jokester) she had received in which concerns about teaching skills were raised (109I). She layers intertextual meaning in two ways: (a) by connecting the idea of students learning "the skills as they go through the process of the unit" to the earlier idea of language as a whole unit instead of fragmented skills (Beth's 25L), and (b) by bridging this meaning into an earlier idea unit (85B) from a different conversational strand: "The fear of talk comes from the student control, evaluation, and management concerns."

> 109I i was concerned,and i think i remember in one of the eight million letters i recived from beth and jack that they were also concerned with what exactly do we teach in speech communication or oral discussion based units/courses. do we just teach skills? probably not. are these skills able to be quantitatively and/or objectively measured? probably not. so how do we go about designing a unit based on speech communication and how do we decide what we want the students to get out of it? well, eureka, i found one way of looking at the problem. An article in the "communication journal" (apr 91) by Frank Macke is the cause of this enlightenment. i think the name of the article was "a discussion of com munication education". anyway, it really made sense to me. we shouldn't be teaching just skills or asking them to do things simply so we can evaluate how well they have performed tasks or assignments. we should concentrate on using oral communication skills to improve their social skills and their CRITICAL THINKIN K skills! it's the basic premise of the course and its intent that matters, not just skills or evaluations. they'll learn the skills as they go through the process of the unit and as far as evaluation goes, i think we're all questioning that whole idea right now anyway. (TJR109, 10-10-91, 15:20, Note 68: on teachers afraid of oral comm.)
>
> 85B* Your article about Peer evaluation seems like it should be obvious...(although we've never even been shown how to make an evaluation of any type!) (JRK116,, 3-10-91, 13:37, Note 53: Re: responding madly.)

As Tasha makes these two connections concerning the curricular consequences of planning and evaluation in a whole-language perspective on speech skill acquisition, she negotiates prior group meanings about appropriate speech skills, about keeping classroom experiences whole, and about acquiring skills in use. Beth connects in a response note 5 days later, sharing how the activity in her ideal classroom would do this by developing skills as consequences of doing the stuff of everyday life. This connection of specific curricular events further expands the potential intertexts for future group meanings about curricular designs for speech acquisition.

> 114B My ideal class would be about interpersonal speaking skills - job search skills, family communication, how to talk to your boss - the stuff that will help students every day. They would learning critical thinking, decision making, all t he stuff that we wrongly assume that everyone knows how to do. A class like tha t would incorporate some worthwile skills. (EIL100, 15-10-91, 10:57, Note 71: Re: on teachers afraind of oral comm.)

Tasha's joke about receiving eight million letters is also part of the group's continual construction of community membership during which Jack and Beth tease each other about the volume of mail, and Tasha finishes the joke off in note 69.

> 54S About now you're all saying "Oh no, not another one from Jack" but guess what, there's a lot more. I've been saving them all up to get revenge to the 35 letters I recieved the other day, so now it's your turn!!! ha ha ha! (JRK116, 26-9-91, 16:09, Note 30: Article #3)
> 57S can you tell I'm a communications freak? (JRK116, 26-9-91, 16:44, Note 32: Article #5)
> 70S Jack - not just a communications freak, but now an e-mail freak. I am determined to answer all these tonight so that you get a taste of your own medicine. (EIL100, 30-9-91, 22:05, Note 41: Re: Article #5)
> 112S that's all for today folks i'm not an e-mail freak....(TJR109, 10-10-91, 15:39, Note 69: on gender)

Not Enough Talk So Need Relevance and Curricular Choice

Jack is probably most responsible for generating this strand of conversation when he connects his experience with the great lack of speech activities in the classroom to the group's belief in the importance of classroom talk. He also increases the potential layering of this meaning by appealing to the group members' shared experiences in college classrooms:

> 11E* i agree with you on the importance of speaking in the classroom, and as jamie said life is one big conversation. (-) i don t feel that there is enough speaking going on in classrooms in all educational facilities. i ts amazaing how we are being tuaght to incorporate all of these wonderful innovative techniques into our classrooms, but we are not experiencing them ourselves in our classes her at psu. (JRK116, 4-9-91, 21:44, Note 5: we re so happy for tasha)

Tasha connects in two ways. First, she supports the contradiction Jack signified and extends it by asking why professors do not try to change their teaching styles (20E). Second, in (21B-Q), she links Jack's meaning about the lack of classroom interaction and communication (11E) with Beth's idea that we need to have much more conversation in the classroom so people can learn effective communication skills and improve their human relationships (6L-I). This illustrates the semiotic process of signifying a meaning with respect to other meanings.

> 20E in response to jack, i know exactly what you mean about profs teaching us all these great techniques and imparting all this wisdom on us but they don t seem to be absorbing, or at any rate, practicing what they are teaching. it makes you wonder. if people know the new research indicates that the newly developed methods work so much better than the traditional ones, you would think that they would make an effort to change their teaching styles...21B-Q* i really do think that effective communication skills are the key to many other aspects of human relations. (-) if people

> communicated half as well as they did other things,...what a wonderful world it would be!!!!!!!!!!! (-) no seriously, why hasn t there been emphasis placed on oral communication in the classroom? (TJR109, 11-9-91, 16:56, Note 9: can t think of what to call it)
>
> 6L-I* Tonight I read some of COMING ON CENTER. It s a collection of articles by James Moffett. So far (after only one article) I like him. This article-aptly called Coming on Center - was about developing student center classrooms...I am really adamant about relating what we teach to each student...One way is to provide students with experiences similar to their everyday life. That is where speaking in the English class comes into this letter. We talk all the time - more than we read or write. But, do we communicate effectively? Are we assertive? Can we express our views? Do we know how to compromise? We need to teache people how to effectively communicate early in life so that they can function in relationships with other people. (-) What do you guys think? (EIL100, 4-9-91, 21:12, Note 2: Moffett s COMING ON CENTER)

Tasha's ninth note further connects to the group intertexts of child-centered classrooms and human relationships by layering meanings about empowerment and government participation:

> 22B there is another reason than the one s we have been discussing for developing better oral communications skills in the classroom. this idea has more to do with the philosophy of education that i beleive we all basically believe in. (-) if we want to give students more responsibility and control over what they learn, communication is imperative, between student and teacher and also between student and student. in Giroux s essay Rethinking the language of the classroom , he discusses student empowerment and how the authority should be shared in the classroom among collectively working students and the teacher. according to Giroux, Crucial to this process is the element of dialogue. Through group dialogue, the norms of cooperation and sociability offset the traditional hidden curriculum s emphasis on competition and excessive individualism. In addition, the process...provides students with the opportunity for experiencing, rather than simply hearing about, the dynamics of participatroy democracy. (-) The implications go much deeper than just the positive effects of effective communication and speaking skills, moreover, oral communication in the classroom is integral to socialization, participating in and understanding the government, indeed to the very art of being human. (TJR109, 11-9-91, 16:56, Note 9: can t think of what to call it)

Beth responds 3 hours later by connecting her shared experience of classrooms in which "teachers are monotones in front of a closed in room," and her hopes never to be like that, mediating the intertext to signify her belief that "it all connects with the relevance issue," which she had introduced in her first note in the conversational strand (6L-I above).

> 24B* In response to Tasha's letter: I agree. This is an aspect that I never really considered. I want my students to have as much say about what is going on my calss as they can...It all connects with the relevance issue. If the kids have a say in what is being done, it will be their class too - their place - their home within the institut ion of education. Then they will be more excited about learning because they w ill ave some connection to the knowledge...I want to talk with my students, not at them. I want them to feel free to talk to me out of the confines of the classroom. I don't want to be a monotone in front of a closed in room. The d ay that that happens is the day I stop teaching, because the students are not going to learn. (EIL100, 11-9-91, 19:59, Note 19: Re: can t think of what to call it)

These connections between a curricular structure of student choice, the need for relevant classroom talk, the experience of silent classrooms, and the beliefs that improved communication will help human relationships and student empowerment, are excellent illustrations of the potential of conversation on electronic networks. Beth, Jack, and Tasha use this potential to negotiate the professional literature they select with their own experiences to socially construct community theories about education and teaching. They accomplish in just these few messages a greater generative intertext than they would acquire from taking notes during a class lecture with regard to their present and future understanding and participation in teacher communities.

Student choice continues as the central meaning to which the students connect the remaining ideas shared in this conversational strand.

> 27L Personal choice is at the center of Moffett's program. -"Stock a classroom with as many things as possible to CHOOSE AMONG" Unfortunately, Moffett recognizes, the institution and "monopoly" of education get in the way. (EIL100, 11-9-91, 20:09, Note 11: More MOFFETT: Making schools pay off)

In segment 60L, Jack interprets an activity he shares from the *English Journal* in terms of his experience of the boring classroom lectures expressed in his earlier segment 11E. He describes the activity as the "old fashioned" use of "conversation to bring up ideas and prior knowledge about the authors and the stories." The activity "seemed to ignore the student's interest and that's what i'm trying to get away from as a future teacher," Jack writes. In 83L, Tasha shares a language activity in which "students help decide how the unit will be taught which also makes it more meaningful to them and has been said to be one of the reasons this program has enjoyed so much success." She also interprets this activity with respect to the earlier meanings about whole language (25L) as she highlights that it is "not just an isolated bunch of facts." Jack responds to Tasha's note about this activity within the intertext of choice as he connects his personal experience in RCLED 420, than asks for more details about the specific activities in the article.

> 87E It sounds like the reading workshop, for example that I am experiencing in good ol' Rcled 420. We practically did everything to form the activities and how we are going to run the activity. your article sounds good, but what activities did they use for example? (JRK116, 3-10-91, 14:25, Note 55:Re: more from me)

E-MAIL POTENTIALS

This study shows that electronic mail environments offer the potentials to foster inquiry communities. It is critical to remember that the students who conversed together in this project knew each other, in some cases for more than a year, and were in class together 6 hours a week. They shared multiple forms of community with each other. This personal relationship certainly deepened the depth of intertextuality and the degree of risk taken in sharing one's thoughts in the electronic mail environment. Watts and Castle (1992) assert that this support and trust must be established before unfamiliar teachers will critically converse in electronic mail networks as part of professional development activities. However, this study clearly demonstrates that as part of preservice teacher education course work, the electronic mail environment can greatly enhance the development of community knowledge and community belonging beyond what can be achieved during class meeting times alone.

This study suggests a theory that electronic mail is an environment in which the physical separation of speakers requires a greater need to explicate in writing the connections between ideas in new messages and prior messages. Thus the environment, because of its lack of face-to-face conversational cues, might promote questions, explanations, and connections more than oral discussion in which connections are often left behind by the assumptions of the participants or the quickly fleeting and tangential direction of the topic. Several studies (Hiltz, 1986; Levenson, 1986) suggest that electronic mail has a more mosaic-like writing in which "clusters of ideas are put forth rather than long renditions on a solitary idea. The 'permanent' record of the interaction enables a synergy that both extends and constrains ideas like the shaping of clay so that multiple syntheses can result" (Beals, 1991; Grabowski, Suciati, & Pusch, 1990). The conversational strands of this inquiry group support these conclusions as the three students connected, dropped, and reconnected to topics without regard to the chronological/linear sequence of messages. Tasha's messages certainly illustrated how multiple strands of conversation could be maintained within what she often called a run-on sentence:

> 43S what a terrible run on sentence. i hope you made some type of sense ou t of it. i just got going and if i had stopped to punctuate i may have caused myself permanent injury. anyway, that's how i feel.more later. catch ya on the flip side. take care and don't eat yellow snow!tasha jo (TJR109, 19-9-91, 13:53, Note 20: more on talking)

This ability to mentally move through the permanent record of community thoughts illustrates the power of electronic mail for negotiating knowledge and membership.

Short (1992) explored the character of literature circles and found the students "involved with ideas and connections that were meaningful and important to them. They were not engaged in a lesson to practice making connections. The group discussions highlighted the contributions of each member, the move from sharing to dialogue as members critically listened to each other and built from what others had to say, and the consideration of alternative perspectives and connections through building shared meaning" (p. 187). This engagement aptly describes the community inquiry experience in Tasha's, Beth's, and Jack's electronic mail.

All three students understood that they were negotiating meaning through the construction of shared semiotic intertexts. In one instance, Beth negotiated her meaning for monologue between her experiences in SPCOM 380 and her reading of Moffett's (1988) text, arriving at a more informal perspective about monologue. (And what she meant by informal must be with respect to some other ideas, experiences, or theoretical beliefs she holds, perhaps her earlier conversations about wanting to have just plain talk in the classroom and not formal debates.)

> 97L* I just read what Moffett has to say about monologue,something that I didn't reali ze the purpose of. (-) I see monologues as SPCOM 380 monologues, (-) but MOffett talks about monologue that comes from dialog. monologue is what happens when one partici pant in a conversation takes over for a while. Thinking of it like this

> puts it in a more informal perspective, at least for me. (EIL100, 6-10-91, 18:38, Note 59: to add to that last letter)

Jack responds to Beth's new meaning for monologue with his own "semiotic" explanation about the act of defining "everything" in our social communities.

> 101B wow, that addition was deep beth. monologue is a neat thing. what drives me crazy are the millions of different definition for everything. personally, i've grown to believe that a definition is whatever or however we can relate any thing to our own experience, but enough of my personal philosophy (JRK116, 8-10-91, 15:05, Note 63: Re: to add to that last letter)

The process of signifying ideas and beliefs about the meaning of signs (quotes and experiences) in respect to the ever-shifting social intertexts of more signs in our multiple communities is aptly described by Jack, as he suggests that it boils down to how we can relate things *to* (I would say *through*) our own (*social*) selves.

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USING A FORMATIVE EXPERIMENT TO STUDY HOW COMPUTERS AFFECT READING AND WRITING IN CLASSROOMS

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Education is not in need of research to find out how it works. It is in need of creative invention to make it work better.—Robert Ebel, past president of the American Educational Research Association, *Educational Researcher,* 1982, Vol. 11(8), p. 18.

Until recently the research investigating the use of computers in reading and writing instruction has been conducted primarily within an experimental paradigm. Following conventional approaches to educational research, researchers interested in how computer-based activities might affect reading and writing instruction have conducted relatively short-term experiments comparing treatment and control groups by gathering and analyzing quantitative data (see a review by Reinking & Bridwell-Bowles, 1991). More recently, reflecting the increasing use of nonexperimental methods in educational research (Winkler, 1992), researchers have begun to conduct long-term studies aimed at gathering qualitative data to investigate how computer-based activities affect reading and writing in classrooms (e.g., Michaels & Bruce, 1989).

Experimental studies employing quantitative methods and nonexperimental studies employing qualitative methods both have enriched our understanding about how computers might be used to benefit reading and writing instruction. Both approaches are suitable for investigating the effects of specific applications of computer technology to reading and writing instruction. However, both approaches are less suitable for determining how those applications might be implemented successfully in classrooms and schools.

Experimental studies focus on a relatively narrow range of variables. Other variables that may affect the outcome of the experiment must be controlled or presumed to produce random effects across treatments. In classroom research, it is difficult to control rigorously key variables given the dynamics of day-to-day instruction. Likewise, dismissing unanticipated events in classrooms as random events often belies their important effects on the outcome of the experiment.

Nonexperimental methods do not require control of the educational environment because they describe what *is* rather than imposing conditions to engineer what *might be.* However, findings from several long-term, qualitative studies in classrooms using computer-based instructional activities reveal another problem. Instructional outcomes tend not to be fully realized when computer-based activities are introduced into classrooms (cf. Dickinson, 1986; Mehan, 1989; Michaels & Bruce, 1989). A common thread in these studies is that computer-based activities are not fully integrated into instruction, but remain an entity unto themselves. Moreover, rather than instigating change, innovative uses of technology are sometimes adapted to maintain existing instructional perspectives and activities. For example, Michaels & Bruce (1989) gathered quantitative and qualitative data in two sixth-grade classrooms that had been introduced to QUILL, a computer-based software package based on current views of teaching writing. After two years of ongoing data collection, the researchers concluded that "the technology did not radically reorganize the teaching and learning of writing in the classrooms. Rather the technology was shaped to fit into already established patterns of social organization and assumptions about doing and valuing writing in school" (p. 1).

In Piagetian terms, the computer-based activities were *assimilated* more than they were *accommodated* by the educational environment. Or, using the term preferred by Newman (Newman, 1990; Newman, Griffin, & Cole, 1989) the technology has not been fully *appropriated.* Computer technology is fully appropriated in classrooms only when it changes the ongoing structure of activities that existed prior to the introduction of computer-based activities. According to Newman (1990), full appropriation "may result in a new interpretation of the [computer] as well as constructive changes in classroom activity" (p. 9).

Is there an approach to research that encompasses the goals of experimental and nonexperimental studies and that simultaneously addresses how computer-based activities can be integrated into classrooms to effect positive changes in instruction? Such research is needed because there is a pervasive expectation that computer-based activities have a unique potential to restructure schooling and to promote the achievement of valued instructional goals (e.g., Cuban, 1986). In the remainder of this paper, we introduce the concept of a formative experiment (Newman, 1990), and we argue that a formative approach to research answers this question better than do conventional experimental or nonexperimental approaches. In so doing, we will draw upon our experience in conducting two year-long experiments in classrooms.

What is a Formative Experiment?

According to Newman(1990), "In a formative experiment, the researcher sets a pedagogical goal and finds out what it takes in terms of materials, organization, or changes in the technology to reach the goal" (p. 10). The pedagogical goal and the computer-based intervention aimed at accomplishing it can be derived from any existing theory of pedagogy. Because the computer-based intervention will be introduced into the complex environment of a classroom or school, it can "involve elaborate arrangements for teacher training, curriculum development, and production of classroom materials" (p. 10). However, the intervention and its plan for implementation as they are conceived at the beginning of the experiment are seen as a first draft, subject to modification during the experiment. Through systematic investigation, the researcher observes and documents factors that inhibit or enhance implementation of the intervention and the achievement of the pedagogical goal. In so doing, the researcher may gather a variety of quantitative and qualitative data.

Paralleling efforts to examine how and to what extent the pedagogical goal is being reached in a formative experiment is an investigation of how and to what extent the educational environment is changed by the intervention. Newman states:

> Whatever the pedagogical theory motivating the experiment, the outcome to be observed must include how the environment becomes organized differently as it appropriates the technology and other resources. . . . If the environment, rather than the technology, is the unit of analysis, changes in the instructional interactions, changes in teachers' roles, and other ways that the educational environment is changed are observed. (p. 10)

Investigating change in the educational environment may entail using a variety of quantitative and qualitative methods for gathering data.

It is important to note that Newman (1990) embeds his notion of the formative experiment in a sociohistorical perspective of cognitive change derived form the Vygotskyian concept of the zone of proximal development (ZPD) (see also Newman, Griffin, & Cole, 1989). Furthermore, he sees computer technology as a means for bringing teachers' and students' interactions into the ZPD because it amplifies teachers' capability to organize the educational environment. His sociohistorical perspective also shapes his rejection of the pedagogical goal as a static endpoint for all students. He argues that many endpoints are possible and that "the environment may transcend its initial goals. It may also retain goals and organization in spite of the technology designer's concerted efforts to support alternative models" (p. 10).

Comparing a Conventional and a Formative Experiment

In this section we compare our experience in conducting two related studies in order to illustrate a formative experiment and how it addresses problems we faced in conducting a conventional experiment. Both studies investigate the effects of implementing a computer-based activity into several middle-grade classrooms. In the activity, students use a computer database to record and to share information about the books they are reading. Students are introduced to the concept of a database and are led to see how it could be used to find information about books they might enjoy reading. Then, they use the database to enter information about the books they have read and to find books that they may wish to read (Reinking & Pickle, 1992).

We view this intervention as a desirable alternative to the conventional book report—an activity inconsistent with our pedagogical theory. In our experience, required book reports may produce undesirable outcomes, especially when factors such as spelling, grammar, and the number of pages read are use to assign grades. In such cases, teachers and students assume adversative roles and students may actually read less and more narrowly (Spiegel, 1981). Nonetheless, the conventional book report is an enduring and ubiquitous activity in schools.

Over a period of years, we have been familiar with several teachers who used the computer-database activity in place of book reports. Our informal observations and discussions with these teachers indicated few of the negative outcomes associated with conventional book reports. When compared to conventional book reports, the data-base approach seemed to shift the focus from the teacher to the students, who had more of an investment in reading and writing associated with this activity. The teachers reported, and we saw positive outcomes associated with computer-based book reviews. Many students seemed to read more books and to read more diverse types of books; they seemed to write more personal, elaborated reviews of what they had read and they seemed more concerned about the content and form of what they had written.

To research more systematically our informal observations and teachers' anecdotal reports, we designed a year-long study of three sixth-grade classrooms in the same middle school (Reinking & Pickle, 1992). Our original design proceeded from a conventional experimental paradigm in which three treatments would be compared: a condition employing conventional book reports, a condition using an off-line version of the database activity, and a condition using the computer-database activity. Because we planned to use intact classes for these treatment conditions, our design was quasi-experimental (Campbell & Stanley, 1963). We proposed to employ quantitative and qualitative methods to gather a variety of data in these three classes during the school year to determine what effects the computer database program might have on students' reading and writing when compared to each of the other treatment conditions.

In planning the project, we had a fairly clear idea of how the treatment conditions would be implemented based on our past experience, although we also realized that some flexibility would be required in designing and implementing the intervention. However, we also realized that to conduct a valid experiment we would have to make adjustments judiciously and uniformly across the three treatment groups. A major threat to the experiment's validity occurred the first week of the school year. We had arranged to work with a teacher who taught three developmental reading classes. In planning the experiment, we assumed that each developmental class would be reasonably homogeneous in regards to reading ability because there were separate remedial and gifted classes. In examining standardized test scores of students assigned to the three classes, we discovered statistically significant differences between all three classes. The teacher's perceptions verified these differences.

We did not believe that statistical control for the differences in reading ability across treatments would honestly compensate for the pervasive effect they would likely have on data collected over an entire school year. Reluctantly, we decided to implement the computer database activity in each of the three classes, to focus on possible differences by ability level between these classes, and to depend more heavily on qualitative data in reaching conclusions. Of necessity, our experiment became a one-group pretest, posttest design. Our disappointment in making this decision is reflected in Campbell and Stanley's (1963) comment that this design is "worth doing where nothing better can be done . . . [but] it is introduced here as a 'bad example' to illustrate several of the confounded extraneous variables that can jeopardize *internal* validity" (p. 7).

As the school year progressed, we found ourselves in a seemingly endless cycle of compromises that threatened the control required in a true experiment. Students did not have adequate access to books in their classroom, so we purchased more books for the classroom library. The dynamics of the classroom and the demands of the experimental tasks required that one of us become more of a teacher's aid than just a dispassionate observer. Students in each of the three classes had interesting but divergent ideas about how to enter information about the books they were reading. Several unanticipated practical problems also emerged. The daily schedule and school policies allowed students little free time to work on the computer. Class time permitted little opportunity for students to work individually on the single computer in the classroom.

Students' lack of typing skills was more of a problem than we anticipated. Further, the results we were seeing did not match our expectations. Most distressing was our conclusion that the computer did not seem to be transforming students' reading and writing as we had hoped. Unconsciously, we may have even begun to resent the teacher's reasonable needs for scheduling classroom activities when they conflicted with our needs to manage the experiment.

Each compromise seemed like a defeat in a war we were quickly losing. All the while, we were gathering and analyzing qualitative data; but, given our orientation, it seemed only to represent a meticulous recording of our experiment's demise. Gradually, we realized that we were learning something important from our difficulties. As this perspective became more lucid, we also realized that the experimental paradigm within which we approached this research project was at odds with the complexity of the educational environment. Our need to maintain control of extraneous variation was a barrier to finding and understanding the most relevant aspects of implementing the intervention and the effects it might have on the educational environment.

Our experience was leading us to conclusions consistent with the rationale for formative experiments as developed by Newman (1990) in an article that coincided with the end of our research project. Drawing on our experience and the rationale outlined by Newman, we designed and are currently involved in a formative experiment being carried out in two elementary schools. There are parallels between the completed research project and the current one. For example, the intervention is again a database book-review activity; and we are gathering similar data using similar methods. However, our orientation to research and the way we interpret the data are completely different. We are not interested in seeing if a particular intervention can have specific positive effects on reading and writing as determined by carefully controlled comparisons to alternative interventions or a control condition. Instead, we have set a pedagogical goal—increasing the amount and diversity of students' independent reading—and we are engaged in an iterative progression of activities aimed at achieving that goal. Our aim is to determine those factors that enhance or inhibit progress toward that goal. An awareness of these factors guides subsequent activities, which are continually fine tuned based on data such a surveys, observations, interviews, and focus-group discussions.

We are also looking for unanticipated effects that extend or transcend our original goal. For example, in discussions with teachers we have discovered they need additional support in working with students on the project's computer-based activities. Working with the teachers, we recruited and trained several of the students' parents to assist on the project. The increased involvement of parents has been a positive by-product of a necessary adjustment to implementing the intervention, and it is one that we did not anticipate. We are also collecting data to characterize how the educational environment is affected by the intervention. For example, we have found that some teachers are interested in extending what they are learning in the project to other aspects of their teaching, whereas others are not. Likewise, the constraints of the environment interact with the demands of implementing the intervention. For example, we have seen notable differences between classrooms with a single computer and those with access to a computer lab.

In this formative experiment, we employ several levels of experimentation simultaneously—what Schon (1987) has termed exploration, move-testing, and hypothesis-testing, which are all part of reflection in action. Put another way, we are simultaneously trying to determine what works, why it works, and what underlying principles might guide us in the future. For example, our planned training sessions for teachers and parents seemed to increase their anxiety when we began by showing them a refined example of what we hoped that they would be able to do after several sessions. We tested this hypothesis by looking specifically for supportive evidence and by changing our approach in subsequent training sessions.

A broad range of qualitative and quantitative data may be useful in formative experiments. Unlike conventional experimental and nonexperimental studies, ongoing data collection guides the course of a formative experiment. For example, quantitative data might suggest that students are decreasing the number of books they are reading; qualitative data may suggest why, which leads to a specific change in the way the intervention is implemented. The change is followed by more data collection, and so forth.

Advantages and Limitations of Formative Experiments

Based on our experiences, we believe a formative experiment to be more useful than a conventional experiment in studying computer-based interventions in classrooms. Formative experiments do not put the researcher at odds with the inherent complexity of classrooms and schools, as do conventional experiments. Unplanned variation and results become opportunities to learn more about implementing the intervention to accomplish pedagogical goals and about its effects on the educational environment. In short, formative experiments accommodate the flexibility and serendipity necessary for successful instruction; our conventional experiment did not.

We believe a case can be made that formative experiments are particularly suited to studying how computer-based activities might enhance literacy instruction in classrooms. First, few instructional interventions require more logistical planning than do even simple uses of computers in classrooms. Further, teachers of reading and writing, perhaps more than other teachers, may not be accustomed to using technology in their teaching. Printed and written texts are their primary instructional materials, and some may even view computers as the antithesis of the aesthetic values they wish to impart to their students (e.g, DeGroff, 1990). Thus, a substantial commitment of teachers' time and effort is required to implement pedagogically rich computer-based activities, perhaps accompanied by notable shifts in their thinking about the content and organization of instruction. The dual focus of formative experiments on identifying problems of implementation and on determining the degree to which technology is appropriated matches these conditions.

Formative experiments also break down the barriers that can separate researchers and teachers (Allen, Buchanan, Edelsky, & Norton, 1992). In conventional experiments, it is difficult not to see the teacher as a nuisance variable representing uncontrolled variation. In formative experiments, teachers' idiosyncratic responses to the intervention are viewed as useful data. Further, a formative experiment is enhanced when teachers become collaborating researchers who gather data and who help in determining what is or is not working, why, and what might be done to reach more effectively the pedagogical goal.

Formative experiments entail some limitations. They require a major commitment of time and energy on the part of researchers, who must first find schools and teachers willing to become intensely involved in a long-term project. Schools must have adequate hardware and software available to implement the proposed intervention, or the researcher must have the resources to provide what is needed. Researchers must plan and carry out methods for collecting extensive data, and they must work closely with key individuals such as principals, teachers, aides, parents, school media specialists, and students. Often, they must provide technical support and training for those individuals. As is often the case in qualitative research, it is difficult in formative experiments for the researcher to remain a detached observer.

Despite these limitations, we believe that a formative experiment provides a unique and missing perspective in researching how computers affect reading and writing in classrooms. Foremost in our support is that formative experiments address directly the need to effect improvements in classroom instruction as emphasized by Ebel in the quote that introduces this paper. Similarly, we agree with Newman, Griffin, and Cole (1989) that "the study of how educational interactions work can never be far removed from the task of engineering them to work better" (p. 147). Formative experiments create a balance between discovery and implementation in the way researchers approach their work. By engaging in such research, we are also likely to gain more credibility among those we hope will make use of our work.

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AUTHOR NOTE

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CHILDREN'S INSIGHTS INTO LITERATURE: USING DIALOGUE JOURNALS TO INVITE LITERARY RESPONSE

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Literature response journals as a form of written response seem to be promising vehicles for inviting children's written comments about their experiences with books (Rogers, 1987). Teachers/researchers have reported numerous benefits from using these journals in a variety of classroom settings (e.g., Atwell, 1987; Bromley, 1989; Five, 1986; Kelly, 1990; Wollman-Bonilla, 1989). Such benefits include providing an avenue for personal expression; allowing for understanding, questions, speculation, and formulation of ideas; providing information relevant to readers' concerns and wondering about the literature being read (Atwell, 1984, 1987; Fulwiler, 1982; Mayher, Lester, & Pardl, 1983; Staton, 1988); and developing higher levels of abstract and critical thinking typically associated with responses of older middle and high school students (Galda, 1990). Response journals can also provide an authentic audience for children's written thoughts about books through an adult's response to children's journal entries. Such dialogue journals allow children and adults to have "written conversations" about books and offer children affirmation, support, and guidance for their developing knowledge of literature (Wollman-Bonilla, 1989).

Although research has indicated the benefits of written response to literature, less is known about the qualitative nature of these responses and about what contributes to the differing ways in which children observe, connect, and wonder through writing. In this study, we focused our attention on the written responses of fourth-grade children and how their understandings of literature were fostered and guided by "written conversations" collected in dialogue journals.

METHOD

Classroom Context and Participants

This study took place in a fourth-grade classroom (N=16) in a rural school located in the southwest. Ms. Patton, who had taught fourth grade for 4 years and was a graduate student at the time of the project, is one of six teachers who has worked with us to implement a literature-based reading/writing program in kindergarten through sixth grade. In the intermediate grades, this program (adapted from the Language to Literacy project, see Roser, Hoffman, & Farest, 1990, for a project description) is characterized by a unit-centered approach. Units, organized around literary themes and/or celebrated authors, include a read-aloud focus book studied in tandem with a literature group novel which children read independently. For example, during one unit Ms. Patton read aloud *Tuck Everlasting* (Babbitt, 1975) and the students read and talked about *Charlotte's Web* (White, 1952). Both are novels that, in different ways, deal with the cycle of life and express the view that death is a natural part of it. Other books children talked and wrote about included: *Bunnicula* (Howe & Howe, 1979), *Howliday Inn* (Bowe, 1982), *The Celery Stalks at Midnight* (Howe, 1983); *The sign of the Beaver* (Speare, 1983), *My Side of the Mountain* (George, 1975), *On the Far Side of the Mountain* (George, 1990):; *Soup and Me* (Peck, 1979), *Soup's Goat* (Peck, 1984), *Soup for President* (Peck, 1978), *Soup on Wheels* (Peck, 1981) and *Soup in Love* (Peck, 1992).

As a part of this program, Mrs. Patton read aloud daily, established and monitored literature-study groups, and invited children's written responses to literature through journals. Each day the children first met as a large group for approximately 20 minutes to share and discuss the read-aloud book. Following this teacher-led discussion the students met in small groups for about 25 minutes to discuss the related book. Small-group discussions focused on questions students had developed during their reading of the assigned chapter(s) and on vocabulary words they had recorded in their notebooks.

Following the small-group discussion, children were given 15–20 minutes to reflect on their experiences with unit books by recording more personal thoughts in journals. Journal entries reflected each child's individual interests and thoughts, since prompts were not used at any time during the investigation period. At the end of each week, children's journals were collected for response. The same member of the research team responded in writing to each entry through the course of the project.

Data Sources and Analysis

Data for this study were drawn from the children's journals gathered over a 6-month period beginning in November and ending in May. In addition, weekly observation and participation in the classroom provided qualitative information (i.e., field notes, videotapes, photographs) about the classroom routine, Ms. Patton's read-aloud strategies, and children's oral responses. We used these data to support our interpretations of the children's journal writing.

Children's journal entries were analyzed through inspection, categorization, and interpretation. Rather than using any predetermined models that categorized literary response, we decided to let the categories emerge from the children's writing by attending to key themes and patterns (e.g., Jipson & Paley, 1992; Spradley, 1979).

Initially, written responses were examined by sorting randomly selected entries into like-groups. This procedure yielded the types of responses seen in Table 1. Using these categories, all remaining entries were coded. Decisions about categorizations were made by two independent coders. Any differences were discussed and resolved. Overall, interrater reliability for journal responses was .90.

RESULTS

The results of these analyses revealed several patterns in the ways in which children responded to literature through written language. Although these patterns described the children's responses, each individual child approached the journal differently and each one's voice was evident in the entries. Our findings regarding the children's responses follow.

First, although children continued to use all six categories of response throughout the investigation period, the frequency of some responses as well as the type/level of response within some categories changed over time. For example, initially children often used revisiting as a means to record their ideas about the book. However, over time they tended to revisit the book less frequently, and, when they did recall story events, they seemed to do so to support their opinions and/or understandings rather than to simply record observations. Overall, children's responses seemed to change from revisits and simple literary criticisms such as, "This chapter is funny," to deeper levels of personal association and more sophisticated analysis and/or judgment of the literature such as:

> Do you think C. S. [Charlotte Spider] deserves credit for writing in the web? Maybe she goes to all that trouble just because Wilbur is her friend. Don't you think that's nice. I mean I've never seen anybody that has really made friends with a pig! Have you? Have your cats ever been nice to mice? See? That's kind of strange. (*Charlotte's Web*)

Table 1

Types of Written Response to Literature

Category	Definition	Examples
Revisits	Tells, describes, or recallss events from the story.	Well today Wilbur said he didn't want to get buchured [sic]. (*Charlotte's Web*)
Predicts/infers	Supposes or suggests, based on story information and/or life experiences.	I think Rob will end up voting for Soup! (*Soup for President*)
Makes Personal Associations	Tells personal opinions, links story with personal life, and/or relates to story characters.	If I were Sam, I would wistle [sic] for Frightful so I could pet her and say goodboy. (*On the Far Side of the Mountain*)
Makes Literary Associations	Makes connections to other pieces of literature.	I think that Charlotte should have drinked [sic] some water from that spring in Tuck E[verlasting]. (*Charlotte's Web*]
Wonders	Offers questions to invite response from the reader, to ponder about the text, and to consider certain aspects of the text by "thinking through writing."	I wonder if when he [Wilbur] sneezes he oinks? [*Charlotte's Web*]
Offers Literary Criticism	Examines, analyzes, and/or judges the author, characters, plot, and theme.	If I was the author of this book, I would take some of the characters out! (*Soup's Goat*)

Second, observations revealed different types of response within several of the major categories. For example, we found that children wondered about their literary experiences in several ways. These included posing questions to invite comments from the research responder ("Why have you read all the books we read?"), pondering ("I wonder if Mr. Robert Newton Peck will write a story about when he was a teenager or adult?" [*Soup's Goat*]), and considering certain aspects of the text by "thinking through writing" ("Did you know that Harold really admires Chester but he just doesn't want him to know he does! Well, at least that's what I think" [*Howliday Inn*]). Another example is that the writings that offered literary criticism ranged from an overall assessment such as, "This chapter was funny," to more critical analyses of authors, characters, and plot such as, "Charlotte really cares about Wilbur. I don't think she would ever do anything to hurt him" (*Charlotte's Web*).

Third, children often used wondering-type questions to "think through writing" by questions that they did not really intend to have answered. When they began with, "Why do you think . . . ," it first appeared that children were inviting a response from the reader. Typically, however, they answered their own questions and in so doing, seemed to draw conclusions about the literature such as:

> Even though Janice is a girl, she pays games with boys. Why do you think she does that? Maybe she's in love with one of the boys. On the other hand, if she likes one of them, why would she beat up all of them? I bet she's just a tomboy! (*Soup's Goat*)

Fourth, children used journal writing to deal with personal concerns about the literature. This pattern of writing was noted when children revisited particular issues during the course of responding to a novel. Children offered multiple examinations of certain aspects of the literature and, as they did so, they seemed to restate and/or resolve personal concerns. For example, one child offered an analysis of a character in 10 of her 16 journal entries. Such multiple entries seemed to help children develop their notions about characters, authors, and life. The following set of entries, relating to one character in Robert Newton Peck's "Soup" books appeared in one child's journal.

> I think that Janice Riker isn't really a nightmare. She probably has been treated mean. So, she treats other people that way. Also she probably has a lot of tomboy in her (but I don't really think that). (3-27-92)
>
> Janice needs someone to talk to about her problems. I think that she is a kid that nobody likes because maybe there is rumors about her that the people think are true. (4-6-92)
>
> I think that Janice isn't a real bully, she just doesn't get any attention! Also people say that she is a bully and she (is) really mean. (4-10-92)
>
> I think that Janice is nicer because she has some one who really cares about her. (4-20-92)
>
> Also, almost every [one in] my class thinks that Janice deserved being kicked by Black Thunder. She just needs somebody who loves and cares for her. (4-22-92)

Fifth, children explored and confirmed personal values, such as dealing with their own sense of justice, the treatment of animals and people, and the use of offensive language. For example, while reading *On the Far Side of the Mountain*, many of the children considered the rights of animals as they experienced Frightful's captivity at the hands of poachers and determined that "Sam did the right thing to give Frightful her freedom." Children often reflected on characters and their actions in the story through their own developing value systems. In these value-judged reflections, children expressed their ideas about the world:

> I wouldn't go against my pawl [pal] just for Norma Jean Bissel. (*Soup for President*)
>
> This book is neat but I don't think to start a book off by a kid swearing is proper. I think its's foul language. I don't think someone that young should use foul language like Sexton does. (*Soup's Goat*)
>
> If I were Mr. Zuckerman, I would let Wilbur out sometime to give him his freedom, because it's not fair that the other animals like the goose and chickens get to run around free! (*Charlotte's Web*)

Finally, children's written responses indicated their increasing sophistication of literary knowledge and appreciation for quality literature. As they recorded their thoughts about what was and what could be, they demonstrated an increasing understanding of characters, authors, and books. The following collection of entries, all recorded by the same child, show this development over time:

> Howie is one of our new caratars [sic]. He calls Chester Pop and he calls Harold Uncle Harold. Well anyway Bunnicula is gone and they can't find him. I think he's in the bedroom because he's not in the kitchen. (*The Celery Stalks at Midnight*) (12-9-91)
>
> If you were Sam would you catch a fox and try taming [illegible]? I would because then I would have two animals to catch my prey and people always say a dog is a man's best friend. He would also be fun to play fetch with. Do you wish that the bird shouldn't die in On the Far Side of the Mt? I do! (*My Side of the Mountain*) (3-10-92)
>
> I think that they should let girls play football, too! Like they did in this story. some are good at playing football but they get hurt easily. I know Iodine really hurts. But I don't think they should yell YAHOO! I think that if Janice could just walk through them because they were too scared to try to tackle her it might be funnier! These books seem better than On the Far Side of the Mt. Janice is mean! I wouldn't want to run for president because Janice might beat Soup up for Norma Jean. I also wouldn't paint the fences! Stay tuned! (*Soup for President*) (3-24-92)
>
> If I was Charlotte, I would get so tired I wouldn't ever do it again! (unless it was for Casey! [his best friend]) That dumb rat Templeton shouldn't argue about saving a life! I wonder what he would do if Wilbur and him traded places! (*Charlotte's Web*) (5-5-92)

Overall, children's written responses to literature allowed for in-depth, personal reflection and fostered new ways of thinking about books. Our qualitative examination of children's writing revealed a richness of thought and understanding that has typically been noted in analyses of written responses to literature. Our efforts to better understand these findings led us to consider the factors involved in encouraging this type of response, especially the role of adults in helping to construct this journey through literature. In this regard, factors related to the selection of literature, the role of the classroom teachers, and the impact of the journal responder were considered.

In this classroom, literature was used in a nondidactic way. Children's thoughts, speculations, and decisions emerged from the literature rather than being directed and/or dictated in any way. The absence of specific journal prompts resulted in written responses that were individual and personal. Adult participants in this community of readers modeled and guided response in ways that demonstrated the "act of response" rather than teaching a single strategy that, although probably effective in terms of comprehension, might or might not be appropriate to the literature itself.

Selected books, representing the best of children's literature, offered involving plots filled with action and suspense, strong believable characters with whom children could identify, and important themes that could be linked to life itself. Related books provided natural connections that could be explored through oral and written language.

Children's needs and interests were often considered when selecting and/or extending the literature. They became involved with the characters and the story and requested sequels to "find out how the story ends." For example, they insisted on reading other books in the "Soup" series. It was through this serial reading that children were allowed to view characters over time, and as a result were offered opportunities to consider and draw conclusions about literary "friends" that had become a part of their world.

Ms. Patton's role cannot be overlooked. She provided a structured, yet nurturing environment that allowed children time to talk and write about literature. In whole-group discussions, she invited children to focus on higher levels of response, using literal-level questioning only as a means to clarify. In her role as literary discussant in small groups, Ms. Patton served as a facilitator, helping children to focus and guiding them to consider new possibilities.

Written conversations about the books were brought full circle by the responses offered by the adult responder. Our initial observations of the responder's comments and questions indicated that these responses provided feedback as well as a model for higher levels of understanding and showed that the responder did the following: (a) affirmed: "I also notice the changes in the drawing. These illustrations seem to explain more."; (b) requested clarification: "I thought you wanted to be like Sam and live alone in the woods. What changed your mind?"; (c) explained: "Soup was his best friend in real life. The author is writing about what happened to him as a boy."; (d) wondered: "I wonder if Soup ever runs out of ideas."; (e) personally connected: "I've been worried about Frightful since that man took her away. I think she must be very frightened and confused."; (f) critiqued: "I think we were all surprised when Sam's dad came because we were never sure about why Sam went to live in the mountains."; (g) invited children to think: "How do you think Soup felt when his pal Rob seemed to favor Norma Jean." We had not foreseen the potential impact of the journal responder on children's entries when conceiving the study. Therefore, we have not performed a thorough analysis of her responses to children's writing at this point. It was, undoubtedly, very significant.

The responder's writings were enriched by her involvement in the classrooms. Classroom visitations allowed her to understand its routine, gain valuable information about the children, and in some ways become a member of the classroom. Her knowledge of the children fostered additional insights into children's responses, allowed her to offer more individualized attention and helped to raise children's levels of understanding in ways that would not have been possible with a neutral observer.

The "written conversations" also seemed to become a part of the overall classroom discussion of books. Issues raised in journals often found their way into small group discussions and were later explored by other children in their journals. For example, in response to one child's observations about the linkages between *The Sign of the Beaver* and *My Side of the Mountain*, the research responder suggested another possible connection between the two books:

> I'm glad you're thinking about both books. And you're right about the things they have in common. You know what else I noticed—both books are written by women. I guess some people might not think women would know about survival. But these authors do.

Classroom observations noted that this issue was brought to a small-group discussion and talked about by several of the children. Later, we noted that another child expressed her ideas about this particular aspect of the literature:

> I think it is totally weird that two WEMON [sic] wrote survival books about young boys. Why do you think two wemon wanted to write survival books? Because how would anybody know this much about the wilderness if they didn't go out to the wilderness or practicly [sic] live there. If they didn't do that they must have studied before writing the book. What do you think of two wemon writing wilderness stories?

Such examples confirmed the importance of the dialogue the journals provided.

DISCUSSION AND IMPLICATION

It is evident that written responses to literature can be rich and powerful expressions of insightful thinking that enable children to reflect on their experiences with books and develop better understandings of written language. As Lukens (1990) suggests, children's literature allows children to explore their humanity and that of others and, as a result, gain an understanding of their world. This study had reaffirmed the importance of having children respond in writing to books. It has further shown the high level of thinking and the richness of response that is possible. Storytalk about books, and developing insights about what constitutes "grand conversations" has been studied (Eeds & Wells, 1989). It seems that written conversations about books must be explored in the same fashion. We must exhibit caution to make sure that written conversations about books are indeed conversations between child and adult rather than simply another form of worksheet. If literature is a fragile medium that we wish to protect (Babbit, 1990) and if we wish children to become life-long readers, then this study has important implications.

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THE EFFECTS OF FOUR MODELS OF GROUP INTERACTION WITH STORYBOOKS ON THE LITERACY GROWTH OF LOW-ACHIEVING KINDERGARTEN CHILDREN

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An examination of emergent literacy research reveals that access to print and literacy experiences, and the mediation of this experience by an adult, are the two elements in a child's home experiences that affect literacy development (Teale & Sulzby, 1987). The majority of this abundant body of research examined the read-aloud event and demonstrated that a child's experiences with books, mediated by an adult, affect early reading (Durkin, 1966), achievement (Wells, 1985), and interest in books (Morrow, 1983); facilitate language development (Chomsky, 1972), the development of schemas for the forms, functions, and conventions of print, and what it means to "look like readers" and "act like readers" (Cochran-Smith, 1984). In addition, involvement in a regular routine of story experiences appears to foster the development of understandings for the decontextualized language of print (Heath, 1982) and schema for story (Stein & Glenn, 1979), which in turn affects story comprehension (Morrow, 1986).

This primarily home-based literature has repeatedly demonstrated that simply reading aloud to children is not enough. From a Vygotskian perspective (Vygotsky, 1978), the adult is the mediator between familiar, contextualized oral language and the unfamiliar, decontextualized language of books. It is the pattern of interaction between adult, child, and print that defines literacy within a home and school community and directs literacy learning (Heath, 1982). Unfortunately, many children come to school lacking storybook experiences (Heath, 1982). In an early report on an extensive, longitudinal study of the home and school factors related to the achievement or failure of students in Grades 2, 4, and 6 conducted by Snow and her colleagues, Snow (1987) reported that the home and school factors were largely independent of one another. She suggested that "either literate, stimulating homes or demanding, enriching classrooms can make good readers" (p. 128). It is up to teachers to provide the "demanding, enriching classrooms" which Snow saw as a way to bridge the gap for many children. Experiences with stories may be one key.

Since many children will only experience stories in school in a whole-class setting, a study was designed to examine the effects of varied whole-group story interaction patterns of measures on literacy achievement in kindergarten. This paper focuses on one portion of that study, addressing the question, "Is there an interaction between achievement level (high, average, and low) and instructional condition (teacher/group focus) on measures of story comprehension, story structure knowledge, and concepts of print?"

METHOD

Subjects

The sample consisted of 87 students from four kindergarten sections in the same school in an upper-midwestern city. The children came from a wide range of socioeconomic backgrounds. At the initiation of the study, the mean age of the 36 girls and 51 boys was 5.7 years.

Selection of the classes was based on the teachers' willingness to participate. Two teachers taught all the students, but the researcher conducted the storybook sessions for the study. In order to adjust for possible differences in the groups due to classroom teacher differences, the 87 participants were randomly assigned to one of four instructional conditions: no discussion, discussion, story-structure focus, and focus on the concepts of print. First, the treatments were randomly assigned to either a morning or afternoon time block. Then children were randomly assigned to one of the two conditions for that time block. Therefore, half of the students' in each group were from each teacher's class.

Materials and Procedures

Assessment Materials and Collection

Three trained university researchers collected pretest and posttest data across groups in one-to-one sessions with the kindergarten subjects.

Story comprehension. The story comprehension pre- and post- measures were developed using two realistic-fiction, picture storybooks. The structure of the tests was based on McConaughty's (1982) thinking and framework for story-comprehension questioning, as well as Morrow's (1984) research.

Story structure knowledge. In order to assess story structure knowledge the children were asked to retell a two-episode narrative. The pretest and posttest stories were originally used by Rahman and Bisanz (1986). Each story had a setting followed by two causally connected, ending-embedded episodes. The story used for the posttest was modified from the original to make it more equivalent with the pretest story in number of propositions.

Concepts about print. Marie Clay's (1979) *Concepts About Print Test* (CAP), with the "Sand" booklet used in administering the pretest and the "Stones" booklet for the posttest, was used to measure students' concepts of print.

Story comprehension/repeated experiences. In order to test the effect of repeated experiences with the same book on story comprehension, a repeated experiences/story comprehension posttest was constructed based on the book, *Mother Halvorson's New Cat* (Aylesworth, 1989), a book that Groups 1 and 2 experienced once and with which Groups 3 and 4 had repeated experiences. That test was constructed using the same genre and the same number and types of questions as the story-comprehension pretest, based on *Peter's Pockets* (Rice, 1989) and the regular story-comprehension posttest, based on *Anna in Charge* (Tsutsui, 1989).

Instructional Materials and Procedures

Storybooks. Nineteen picture storybooks (one for the pretest and 18 treatment books) were selected based on researcher-specified criteria in terms of copyright date (published within the last year, with exceptions for a few books in the "big book" format), length (a read-aloud time of 5–7 minutes), definite story structure (character, setting, goal, events, and outcome), familiarity of concepts for kindergarteners, and genre (folktales, fantasy, and realistic fiction).

General procedures. Instructional differences were created by manipulating how the students were engaged before and after each story. The two main factors from storybook research that influence language and literacy, the power of the adult's interaction pattern to affect a child's response (Hickman, 1981) and the value of repeated experiences with the same story (Morrow, 1988), directed the decisions about the composition of the instructional conditions in this study. First, the role and the focus of the teachers was different for each of the four instructional conditions. Second, in order to examine the role of repeated experiences on measures of literacy, repeated experiences with 6 of the 18 instructional books were built into the experiences of Groups 3 and 4.

The children met with the researcher in their respective groups for three 20 minute sessions per week for 6 weeks. The 18 books (books 2–19) were read aloud to the four groups on the same days. The subjects participated in their varied group activities in 17 of the 18 story sessions. On the last instructional day, Day 18, the children heard the story-comprehension posttest book as they had the pretest book, in a whole group with no discussion or activity.

Group 1—No-discussion group. Although there is a considerable body of literature to support the notion that the adult/child interaction during the read-aloud event is critical to a child's engagement in the book and response to it, some teachers allow little or no interaction between children and text during storytime (Roser & Martinez, 1985; Morrow, 1988). The no-discussion group heard a different storybook read aloud for each of the 18 sessions. The book was simply introduced by the title, author, and illustrator. Comments and questions were diplomatically discouraged. To equalize the time spent with the students across groups, the no-discussion group filled the remaining minutes of each session by drawing and coloring a picture of their choice. The children in this group adapted to the expectation that they were not to interrupt. Seldom were comments interjected by the children. It is also relevant that the children in the no-discussion group followed the "no verbal interaction" policy during the research "storytime," but interaction was common during storytime in their own classrooms. Thus, just as Roser and Martinez (1985), Dickinson and Keebler (1989) and others have noted, children adapt their interaction pattern to the pattern directed by each adult.

Group 2—Discussion focus. The second group was involved in a Directed Reading Activity (DRA) format of pre- and post- discussion using teacher-led questioning asking for literal, inferential, and critical interpretation of the text. In order to have some consistency in the study from one book-discussion session to another, Hansen's (1981) inferential strategy provided a framework for the construction of preplanned questions used before and after each story was read aloud. Hansen stressed the importance of activating prior knowledge, making predictions, and setting purposes for reading as strategies which aid comprehension. After the prereading discussion, the story was read with no planned interruptions, although spontaneous comments and questions occurred occasionally and were not discouraged. The preplanned postdiscussion began with questions posed in the prereading discussion, then moved on to other literal, inferential, and critical questions, a framework of question types suggested by McConaughty (1982).

Group 3—Story structure/repeated experiences. The literature proposes two activities to facilitate the development of sense of story in young children: reenactment and retelling of stories (Morrow, 1985; Pellegrini & Galda, 1982). For these reasons, the focus of the story experiences for Group 3 was story structure (setting, character, goal or problem, sequence of events, and resolution) with retelling and reenactment as response activities that provided for repeated experiences with the same story. For each new book, this group of children focused briefly on the story-structure elements of the book through pre- and post- discussion. With the remaining time of each session, and focusing on the book introduced on Day 1 of the week, the children were guided through retelling the story with puppets (Days 1 and 3) and a reenactment (Day 2).

Group 4—Focus on print/repeated experiences. Since knowledge of the concepts of print is important in the process of learning to read, and storybook interaction is a context for experiencing the print children will eventually read on their own, focus for the story experiences of Group 4 was on the features or concepts of print. This group focused on the concepts of print through modeling and discussion of concepts such as "letter" and "word," punctuation, the left-to-right orientation of reading, and so on. In order to more clearly see these concepts, whenever available a "big book" version of the day's book was used with this group. On Days 2 and 3 of each week, this print-focus group heard the new story of the day with a brief emphasis on concepts about print and then participated in repeated experiences with book 1 of the week. These language-experience activities included constructing a shortened version of the story on a large chart (Day 1), rereading the chart focusing on the concepts of print (Day 2), then following along and illustrating individual child-size facsimiles of the chart (Day 3).

DATA SCORING AND ANALYSIS

The data were scored by trained research assistants following predetermined guidelines. The raters were blind to the identification of subjects, the instructional conditions, and whether or not they were scoring pre- or post- measure. For the story-comprehension measures (pre-, post-, and repeated/post-) each rater was given the book on which the test was based and a set of scoring guidelines where criteria were established for answering the questions adequately. The scoring guidelines were modifications of guidelines used by Morrow (1984). Approximately 50% of each set of tests was scored by a second person. The percent of interjudge agreement was 97% for the pretest, 96% for the regular story-comprehension posttest, and 96% for the repeated-experiences posttest. The taped retellings were transcribed by a professional secretary. A guidesheet for scoring the retellings was created by parsing each of the two stories into story-structure categories following Stein and Glenn's (1979) procedure. In addition, a modification of Merritt and Liles's (1987) directions for scoring retellings was developed to assist the raters in making scoring decisions. Slightly more than one-third of the retellings were independently analyzed by a second rater. Ninety-nine percent agreement was reached between the raters for both the pretest and posttest retellings. The scoring of Clay's (1979) Concepts About Print Test was a matter of totaling the presence or absence of a correct response.

An analysis of variance, with two independent variables (literacy achievement level and instructional condition), was the test statistic used in this study. In order to assign a literacy achievement level to each child, a composite score was established for the 83 subjects (of the 87) that had complete pretest data. Initially, correlations were run between the pretest measures and moderate correlations were present. Then, each of the three different pretest scores was converted into a z score. The three z scores for each subject were then added together. A frequency chart of totals was run, and cut-offs for high, average, and low achievers were determined by dividing the list into three. Instructional group with four levels (no discussion, discussion, story structure focus, and concepts of print focus) was the second independent variable. A separate analysis (ANOVA) was run for each dependent variable: story comprehension, story structure knowledge, concepts of print, and repeated-experiences story comprehension. For a child to be included in an analysis, the posttest had to be available. Due to moves and absence, the number of subjects in each analysis varied. Also, the researcher acknowledges that the cell size is small in these analyses; nonetheless, the information obtained is worth examining.

RESULTS AND DISCUSSION

Of the four two-way ANOVAs, only the interaction of achievement level by instructional condition for the repeated experiences/story comprehension posttest was statistically significant [$F(6, 65)=3.546$, $p=.004$]. A post-hoc comparison, using the Tukey-HSD procedure, revealed that there were statistically significant differences ($p<.05$) within the low-achieving group. The interaction may be explained by examining the cell means for the repeated experiences/story comprehension posttest in Table 1 and the interaction effect as plotted in Figure 1. The low-achieving students in Group 3 (story structure) did significantly better than the low subjects in the other three conditions. These low-achieving children statistically outperformed the average students in Group 1 (no discussion) and did essentially as well as the high-achieving students in that group. An examination of the interaction graph (Figure 1) also reveals that the spread among the scores for the high, average, and low students is narrowed for students in Groups 4 as well.

Table 1

Repeated Experiences/Story Comprehension Groups by Achievement Level

	Literacy Achievement Level *M (SD)*		
Group	Low	Average	High
1—No Discussion	2.8 (1.1) *N*=5 a	5.8 (2.2) *N*=6 a	6.9 (1.5) *N*=7 a
2—Discussion	3.8 (2.3) *N*=6 a	8.9 (1.6) *N*=7 a	8.0 (2.9) *N*=5 a
3—Story Structure	6.8 (1.2) *N*=10 b	6.8 (1.7) *N*=6 a	8.0 (1.2) *N*=5 a
4—Concepts of Print	5.8 (1.9) *N*=5 a	8.8 (1.0) *N*=8 a	7.1 (1.5) *N*=7 a

Note. Posttreatment mean scores in any column (achievement level) are significantly different if they do not share the same code (a) (b).

The two factors that most likely account for the differences found in this study for the low-ability kindergarteners in Groups 3 and 4 are the active engagement and repeated experiences with books provided in those two instructional conditions. It is common knowledge that young children learn best by being actively engaged in their environment. Instructional conditions 1 and 2 allowed for very little engagement on the part of the children. They were generally cooperative, but lacked enthusiasm for the story sessions. Fidgeting, "tuning out" and bothering others was a problem in Groups 1 and 2, but was not an issue in Groups 3 and 4. The children in Groups 3 and 4 eagerly lined up at their classroom doors to join the researcher for "storytime." Those in Group 3 obviously enjoyed reenacting and retelling the stories and begged to "do it again." The children in Group 4 vied for the opportunity to show where the researcher should start reading, to find a capital letter, boundaries of words, and so on. It was not unusual for a child to spontaneously shout out a comment about a concept seen on a "big book" or chart, for example, "I see talking marks!" Children in Groups 3 and 4 who initially were quiet observers became active participants as the sessions progressed.

The parent/child storybook research supports the notion that repeated experiences with the same book and the nature of those experiences affect the responses of the child. Children appear to make more responses and the variety and depth of their responses increase over time (Teale & Sulzby, 1987; Yaden, Smolkin, & Conlon, 1989). Morrow (1988) conducted a school-based study in which repeated experiences and achievement level were two variables, just as they were in this study. Preschool chil-

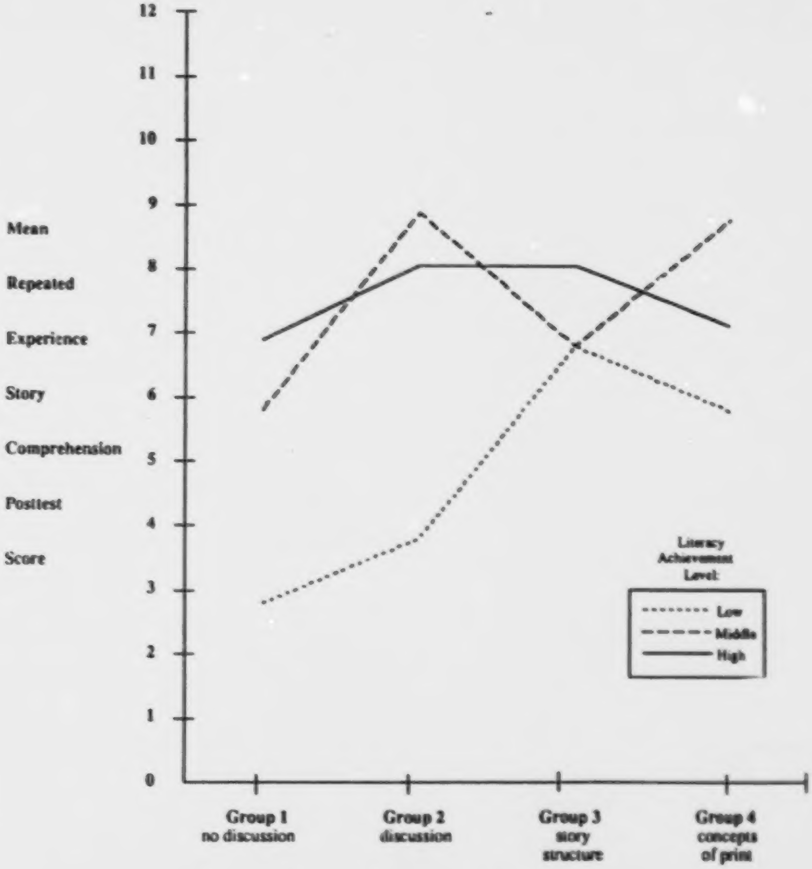

Figure 1. Interaction between literacy achievement and instruction for repeated experiences/story comprehension.

dren had read-aloud experiences with books in a one-to-one setting over a period of 10 weeks. The children of low ability in the repeated-experiences group made significantly more comments than the average and high students, however the comments and questions for the high achieving students in the repeated-experiences group decreased.

There were no significant interactions in this study between instructional group and the average and high achievers on the four dependent measures. This finding suggests that kindergarten children who are average and above in literacy achievement do not necessarily benefit from a particular pattern of group storybook interaction. Although the design of this study and Morrow's (1988) study are different, both demonstrate that repeated experiences may be particularly beneficial to low-achieving students and not necessarily to other children. Children who are high in literacy achievement in kindergarten have received positive literacy-related experiences before entrance to kindergarten. Possibly, the storybook interaction needs of those children are different from the needs of the low-achieving students. The average- and high-achieving students might benefit more from greater diversity in their literature experiences, rather than repeated experiences with a small number of books, although this was not examined in the study reported here.

A limitation of this part of the larger study was the low number of subjects per cell. Thus, the findings must be interpreted with caution. However, since instructional time in kindergarten is limited and teachers generally use some of that time daily with stories, this study suggests that actively engaging children in mediated, repeated experiences with stories in the whole-class kindergarten environment may facilitate literacy development for the low-achieving student. There is a need to continue research on the role of the storybook in the classroom, with particular attention to the needs of children of different levels of literacy achievement.

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THE OTHER HALF: A CASE STUDY OF ASYMMETRICAL COMMUNICATION IN CONTENT-AREA READING STUDENT-PROFESSOR DIALOGUE JOURNALS

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Secondary content-area preservice teachers enrolled in certification programs throughout the country are encouraged by their mentors to become "reflective practitioners" (Schon, 1987). Preservice teachers are being asked to think of knowledge and pedagogy as sociocultural domains amenable to purposeful and critical analysis. Student-professor dialogue journals offer one vehicle for reflection on content-area lessons. However, the degree to which open, reflective inquiry occurs is highly dependent on the communication context of the dialogue.

Miller (1990) viewed dialogue journals as emancipatory because they place the teacher in the role of teacher-as-researcher with knowledge seen as socially constructed and open to question. Yet any dialogue, whether spoken or written, holds the potential for open or closed communication. Conversational dialogues involve a tacit contract between speaker and listener. This communication contract assumes that a speaker will strive to be understood by the other party and that the listener will actively seek meaning and signal the other party should communication break down (Grimes, 1975). Unfortunately, this conversational balancing act may not hold true in dialogues between parties occupying different sociocultural and hierarchical strata. Tannen (1990) questioned why some conversations floundered with two parties talking at cross-purposes. She used the term "symmetrical" to describe dialogues that result in mutual understanding and "asymmetrical" to denote dialogues that distance one party from the other. For example, when a teacher admonishes a student in a science lab to "follow the lab manual directions more carefully" after a botched experiment, this student is unlikely to ask for additional help.

The purpose of the present study was to conduct a case study analysis of the dialogue in three student-professor dialogue journals written in conjunction with a content-area reading course and its related field-based practicum. The study was part of a larger investigation aimed at exploring dialogue journal communication across various stages of a teacher preparation program (Zulich, Bean, & Herrick, 1992a).

Student-professor dialogue journals offer one route to reflective inquiry, but how the dialogue is handled holds the key to whether or not they are truly helpful. For example, Miller (1990) wrote dialogue journals over a 3-year period with a small group of her graduate students who were experienced teachers. Although each member of Miller's project wanted to reduce the barriers to honest communication about the trials and triumphs of teaching, they each grappled with asymmetrical conversational problems. Miller reported that she struggled with her role as professor and originator of the invitation to engage in this long-term dialogue. Her teacher colleagues expressed a similar anxiety about opening up in a dialogue journal with Miller, "our teacher."

In a recent review of qualitative case studies of preservice teacher development, Kagan (1992) listed common themes that might increase the potential for asymmetrical dialogue journal exchanges. She noted that preservice teachers cling to a romanticized view of good teaching forged through years of personal experience in classrooms. Unfortunately, this idealized image may not be an appropriate model for today's classrooms. Indeed, Kagan found that students' preconceptions about teaching were unaffected by courses in education or field experiences. These preconceptions often resulted in the creation of a fuzzy model for teaching that assumed today's students were like yesterday's. Dialogue journals should question these limited assumptions. But the critical stance that may be established through dialogue journals can be limited by at least four factors that influence a preservice teacher's development. These include: (a) discipline subculture (Bean & Zulich, 1990; O'Brien, 1988); (b) the quality of preservice experience in the classroom (Livingston & Borko, 1989; Richardson, 1990); (c) opportunities for reflection on the preservice experience (Zulich, Bean, & Herrick, 1992a); and (d) personal biography, including many years' experience as a student in classrooms (Britzman, 1991; Manna & Mischeff, 1987). Each of these factors plays a role in the status relationships and conversational style that develops in the dialogue journal exchange.

For example, the technical vocabulary of a discipline along with preferred theories about learning in a specialized field partially delimits the teaching and learning terrain. Students often align themselves with their respective discipline subcultures. The field experience assignment can serve as a forum for personal reflection but more often than not, preservice teachers align themselves with the structure of the school in a desire to fit in. Reflective activities such as dialogue journals may serve a critical, analytic function if both parties treat the journal as a powerful means to problem solving. Bennett (1991) found that autobiographical differences among preservice teachers resulted in contrasting approaches to classroom teaching. She concluded that reflective journals helped work through the fears and problems associated with becoming a teacher.

Although Miller's (1990) study and Bennett's research explored the use of dialogue journals in reflection on teaching, they did not probe the hierarchical status relationships that can interfere with communication in journal writing. Missing in studies of student-professor dialogue journal communication is a theoretical description of this process that shows the dialogue journal's potential for the critical exchanges of ideas balanced by journal communication that falls short of this potential. Our research explored this contrast in a required content-area reading course using Tannen's (1990) theoretical construct of symmetrical and asymmetrical conversations.

Tannen's (1990) construct of symmetrical and asymmetrical conversations suggests that simply having students in a content-area reading class write to us may not ensure open lines of communication about a preservice teacher's beliefs and practices. How we respond to students may encourage or inhibit reflective inquiry. The present study explored this issue through a content analysis of student-professor dialogue journals extracted from an earlier study that focused on a stage theory of preservice teacher development (Zulich, Bean, & Herrick, 1992a). We applied Tannen's (1990) theory of conversational symmetry to discover the extent to which the content-area reading professor's responses created a symmetrical dialogue.

METHOD

Subjects

The subjects in this study included three students who submitted their journals for dialogue communication and the professor who responded to their journal entries. Subjects were selected based on representation of predominant content majors in the teacher education program. The present study focused on the professor's responses.

The course was comprised of 12 female and 2 male students representing the following disciplines: (a) 6 from social studies, (b) 1 from biology, (c) 1 from English, (d) 1 from Hawaiian Studies, (e) 1 from mathematics, and (f) 4 elementary inservice teachers taking the course as an elective in their Professional Certificate program. Ethnic groups represented included Hawaiian, Caucasian, Japanese, Chinese, and Portuguese.

The course emphasized guiding student learning from text through various teaching strategies in vocabulary, comprehension, writing, and study strategies. The course introduced study guides, anticipation-reaction guides, graphic organizers, and other strategies which help students cope with often unfriendly textbooks. The course's 2-day practicum provided prospective teachers classroom-based opportunities to practice these strategies with secondary students.

Pseudonyms were assigned as follows: Carolyn in English, Iwalani in social studies, and Marge in biology. Carolyn was a 39-year-old Caucasian student, returning to complete teacher certification after a combined degree in French and English and a career teaching English-style horseback riding and dressage. Iwalani was a 38-year-old Chinese student raised in the Hawaiian community. She was a political science major who left the hotel industry to fulfill her teaching aspirations. She volunteered as a docent in a local ocean park educational center. Marge was a 42-year-old Caucasian student from Louisiana with a major in biology. During the content-area reading/writing course, Marge accepted two challenging part-time teaching positions as a G.E.D. instructor at the local prison and at the alternative learning center for at-risk high school students.

The three students in this case study were assigned to observation-participation field experiences 2 days per week for 2 hours each day at a Big Island suburban intermediate school enrolling over 900 students. Carolyn worked in a mixed seventh- and eighth-grade English class. Iwalani was in an eighth-grade social studies class and Marge was assigned to a seventh-grade science class.

The professor was a 42-year-old Caucasian raised in Honolulu. After teaching, conducting research, and becoming a full professor and Reading Department Graduate Coordinator in the California State University system, he moved to the Big Island to serve as Education Department Chair in a small liberal arts institution of 3,000 students. He was a co-author of the text used in the content-area reading course which emphasized specific vocabulary and learning from text strategies (Readence, Bean, & Baldwin, 1992).

Materials and Procedures

Journal writing by students and the first author took place during the first 10 minutes of each class. Students were encouraged to use the journal entries to reflect on course, text, and practicum experiences. The professor collected several voluntary journals during each class session, offering his journal to a student reader. At the next class, students and the professor returned journals with their written responses to entries. The secondary content-area reading/writing course met Monday nights from 4:30 to 7:00 with a 2-day practicum on Tuesdays and Thursdays from 8:00 to 10:00 a.m.

We conducted a content analysis of the professor's responses to student journal entries and a constant comparison analysis for emerging patterns (Bogdan & Biklen, 1992). We repeatedly read all transcribed student journals focusing on professor responses and recorded this information on note cards. The three categories that emerged for the professor's responses were: (a) *Extending Student's Thoughts*—responses that continue the student's discussion, often establishing a "private curriculum" by offering additional information or suggested readings. For example: "The questions you raise about the lecture method go to the heart of sink or swim assumptive teaching. I want to comment on this further"; (b) Answering Questions—direct or indirect answers to student questions. For example: "Yes, you should be able to do some actual teaching in the practicum, especially in terms of the vocabulary and final project"; and (c) *Acknowledging Student's Skills and Talents*—responses that recognize the student's specific talents, skills, or contributions. For example: "You did a nice job of organizing your microteaching from the anticipatory set through the culminating activity."

RESULTS

Analysis of journal entries in this course indicated that as our students entered public school classrooms in their new teaching roles, they became focused on the specifics of developing effective lessons. They expressed interest in the use of vocabulary strategies and generally recognized the value of the course. In addition, they were aware of the importance of building effective relationships with their cooperating teachers. Although the practicum assignment launched these students into a fairly advanced stage of preservice teacher development focusing on lesson effectiveness, their journals revealed few comments concerning the students they were teaching. This attention to their own lesson design and lack of commentary on their students is fairly typical of novice teachers (Kagan, 1992).

Professor responses to student journals encompassed the three categories of extending student thoughts, answering questions, and acknowledging student skills and talents. Specifically, professor responses to Iwalani's journal focused on extending thoughts (three instances) with no responses in the answering questions and acknowledging skills categories. Marge's journal included responses in all three categories of extending thoughts (three instances), answering questions (four instances), and acknowledging skills (three instances). Professor responses to Carolyn's journal included extending thoughts (one instance) and acknowledging skills (one instance). Thus, although professor responses in the categories of extending thoughts and complimenting were written to all three students, the category of answering questions applied to only one student, Marge, and acknowledging skills was evident in responses to two students, Marge and Carolyn. These categories suggest that traditional professor-student roles analogous to the turn-taking conventions of a traditional classroom were maintained. Had we found patterns of responding that included categories like "teaching autobiography" or "personal teaching experiences" a very different picture might emerge but this is simply not the case in the present study. Professor responses within the categories that emerged are explored in greater detail in the following section.

Professor Responses to Iwalani's Journal

As evidenced in the pages of her journal, Iwalani's personal biography directly influenced her deep interest in group-oriented teaching strategies. Her life experiences in the Hawaiian community and her academic subculture in social studies supported the value of cooperation and group responsibility.

Iwalani's practicum placement with an outstanding junior high social studies teacher provided valuable opportunities to practice reading and writing strategies that involved small-group work. Her journal offered a place to reflect on her ability to use these strategies in the classroom.

Responses to Iwalani's journal consisted of three extensions of her thoughts for the five times she volunteered her journal for professor commentary. But these professor responses were often distant in tone in relation to her understandable nervousness about the practicum assignment. For example, when Iwalani expressed anxiety and uncertainty about her ensuing practicum the professor wrote: "Actually, O/P (observation-participation) is still pretty friendly since you are under the wing of a mentor teacher. Most contemporary programs of teacher education reject the old sink-or-swim approach in favor of increasing amounts of responsibility. Teaching and becoming a teacher is viewed as a developmental process with discernible stages." Most of the professor's responses to Iwalani's journal comments took on this global stance intended to extend her thoughts about the practicum.

Professor Responses to Marge's Journal

Marge's journal displayed a good deal of self-doubt and a philosophical view that was critical of the lecture mode of teaching and memorization often found in university biology classes. Once she became immersed in teaching with an excellent science mentor in the intermediate school near the university, much of her anxiety disappeared. Responses to Marge's journal entries spanned the three categories with four answers to questions, three acknowledgments, and three extensions for the four times she volunteered her journal. For example, the professor acknowledged her willingness to undertake challenging teaching assignments: "You bring a wide array of experiences to teaching—the prison work certainly provides a clear sense of how hard it is to go back and learn rudimentary basic skills."

Professor's Responses to Carolyn's Journal

As an English major, Carolyn quickly grasped the intent of the course and demonstrated a keen interest in using the strategies presented to create effective lessons. Her journals provided a potential forum for careful and critical self-analysis of teaching. However, the professor's responses for the three times she volunteered her journal did not encourage an extended dialogue. Carolyn's detailed examination of specific content-area reading strategies went virtually unattended throughout the journal. The professor's responses consisted of one extension and one acknowledgment. For example, he extended her thoughts on the philosophy of content-area reading: "Reading texts is considerably more complex than we usually realize. . . . Teachers really form the link to obscure concepts locked away in the sometimes convoluted and unfriendly language of a textbook."

The journals selected for the present study represented a subset of a larger study spanning three students in a preservice introductory course, three in an intermediate methods class, and three students engaged in student teaching. This case study data revealed that professor responses clustered in the categories of extending student thoughts, answering questions, and acknowledging skills (Zulich, Bean, & Herrick, 1992b). In essence, the distant and asymmetrical dialogue revealed in the present case study is not atypical. Traditional professor and student roles were consistent across dialogue journals in our program even with different professors responding to student entries.

DISCUSSION

On the surface, one might assume that dialogue journal conversations encourage a critical and careful analysis of teaching (Bean & Zulich, 1989). However, our case study of professor responses to student journals in content-area reading suggests that the conversation is often asymmetrical (Tannen, 1990). In each of these three journal responses, the professor maintained traditional professor-student roles by making terse general comments about teaching and texts. Despite the private curriculum established in dialogue journal communication, the professor's responses remained relatively impersonal.

The professor responded to the three case study students by extending their thoughts, complimenting them, and acknowledging their skills and talents. He did little to reveal his own struggle to become a teacher by discussing his own institutional biography (Britzman, 1991). In essence, the journals consisted of student entries and professor feedback, as opposed to establishing a forum for equal parties to engage in meaningful and reciprocal dialogue.

Tannen's construct of symmetrical and asymmetrical conversations served as a useful interpretive theory for examining these professor-student dialogues. Although students' journal entries might have encouraged greater commentary on the professor's early struggles in teaching, he approached dialogue journal writing with a preestablished schema for responding. Namely, as the professor, he orchestrated and in many ways controlled the course content. The majority of journal exchanges, therefore, echo the unequal status of professor and student roles.

Implications from this case study analysis have changed the way in which more recent dialogue journal conversations have progressed. With a conscious awareness of the potential for asymmetrical conversations comes greater care and time in responding to students's journal entries. The tone of professor responses has become more conversational and encourages open discussion of the fears and self-doubt that accompany entry into a content-area reading practicum. For example, the professor now discusses his own learning and research, visits to schools, lessons that went well or poorly and personal anecdotes about becoming a content teacher.

At the heart of the issue of symmetrical and asymmetrical dialogues is the realization that something as simple as carrying on a dialogue journal with students is far more complex than it first appears. The use of dialogue journals should not be undertaken lightly. Rather, dialogue journal implementation must be grounded in an understanding that communication about classroom teaching involves risk, self-doubt, and ultimately a desire to bridge traditional professor-student roles.

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LOOKING WITHIN: A STUDY OF AN UNDERGRADUATE READING METHODS COURSE

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The current interest in examining and restructuring reading teacher education is due in part to criticism that professors of education do not subject their own teaching to the same degree of rigorous examination that they undertake when studying elementary and secondary school teaching. A related criticism is the apparent mismatch between what is professed as sound instruction and the manner of instruction used in teacher education. In other words, it has become increasingly obvious that university teaching should exemplify the type of innovative instruction recommended for teaching reading.

Some educational researchers have responded by studying various models of teacher education as they restructure their own approaches to teaching (e.g., Herrmann & Sarracino, 1991; Hollingsworth, 1989). Their innovations in reading teacher education reflect a move away from the competency-based model (learning observable skills identified with effective reading instruction) and a traditional craft (apprenticeship with and observation of excellent teachers) toward an inquiry-oriented approach (Alvermann, 1990). The inquiry model is characterized by terms such as "reflective practice," "reflection-in-action," "teachers are researcher," and "teacher as decision-maker" (Calderhead, 1989).

In light of the call for more self-study in teacher education and changing views on ways to teach reading methods courses, we decided to investigate the following question: How do approaches to teaching six sections of a reading methods course that differ to the extent to which they adopt an inquiry orientation affect preservice teachers' perceptions of (a) their preparedness to teach reading, (b) the relevancy of the course, and (c) the influence of grading procedures?

BACKGROUND

At our university all elementary school majors are required to enroll in a reading methods course (ERD 342) entitled "The Teaching of Reading to Early Elementary Children." Professors who teach this course have indicated dissatisfaction with students' level of commitment and interest in the course content, with the degree to which the course broadened students' perspectives, and with the effect the course was having on students' field-based teaching immediately following the course. In the fall of 1991, one professor radically changed his approach to this course from a competency-based model to an inquiry model. The professor's positive reaction to these changes led some graduate students and faculty who teach other sections of the course to undertake various innovations as well. The result was that one course section was very inquiry-oriented, whereas others represented various elements associated with competency-based, traditional-craft, and inquiry-oriented teaching.

DESCRIPTIONS OF COURSE SECTIONS

The following descriptions of each course section were generated from course syllabi, classroom observations (except in one section), informal interviews, and one structured interview with each instructor. The descriptions highlight the respective instructors' intentions in teaching the course, their course organization, and their approach to evaluating students. We have given a long and short descriptive name to each section and present them in order from more traditional to more inquiry oriented.

The Lecture and Issues Section (Lecture)

The structure of this section was determined primarily by the instructor. The instructor unilaterally made decisions related to evaluation, materials, content, and class activities. Class periods were typically divided into two parts. The first part was a lecture on the assigned readings and a question-and-answer session. In the second part students met in groups to discuss a major topic or issue in reading, followed by reports from each group. Course grades were based on a thematic unit, midterm, and final examination.

The Theory into Practice Section (Theory/Practice)

The emphasis in this section was on practical approaches useful in teaching reading. This was supported by discussions of issues in reading instruction, lectures on theory, and readings from five books. The readings complemented a list of lesson types that students took turns teaching to the rest of the class. Students had input when they chose whether to be evaluated with quizzes, midterm, and final, or on projects. Students who chose projects again had input into the nature of the project (e.g., one-third of the class chose tutoring once a week.).

The Dialectical Discussion Section (Discussion)

The intention in this section was to engage students in dialectical exchanges about the content in their textbook. Students discussed general statements about the teaching of reading that they responded to in conjunction with their reading assignments. Students also presented a demonstration lesson based on the contents of an article from *The Reading Teacher.* Students wrote a reflective evaluation on their demonstration lesson conducted for the class and assigned themselves a letter grade.

The remainder of the course grade was determined by the instructor who gave quizzes to assess students' knowledge of phonics generalizations and administered a final examination designed to test the application of knowledge about reading methods.

The Collaborative Study Guide Section (Study Guide)

The instructor's approach in this section was to set the course's structure while providing opportunities for student input in specified areas of the course. The instructor assigned readings but had pairs of students take turns designing chapter study guides. Class time was spent discussing the study guides, writing in dialogue journals, reading children's literature, and discussing how to design literacy activities based on tradebooks. The course grade was based on completing study guides, taking a mid-term quiz and final exam based on the student-generated study guides, and compiling a portfolio. The portfolio involved creating an annotated bibliography of 10 children's books, writing a lesson plan to accompany a children's book, and reflecting on past and present learning experiences.

The Decision-making with Portfolio Section (Decision-Making)

The emphasis in this course section was that teachers are professionals and "must *not* rely on other experts or a prepackaged set of ideas." The instructor's goal was to develop preservice teachers' sense of themselves as decision-makers in control of their own learning. At the beginning of the course, the instructor presented a framework for the course based on one text, engaged students in whole-class activities designed to stimulate their thinking, and suggested main topics that might be explored. Portfolio assessment was used to promote self-reflection and to determine each student's final course grade. In the beginning of the course, each student met with the instructor to discuss their portfolio and how it could be used to assess their learning. Students were encouraged to engage in self-assessment and to set their own goals for attendance and professionalism.

The Constructivist with Portfolio Section (Constructivist)

The content for this course proceeded directly from students' needs and interests as they pertain to teaching children to read in elementary school. The rationale was based on a constructivist view of learning and emphasized personal reflection. The course began with a survey of some 20 reading methods textbooks to ascertain the kind of topics commonly covered in preparing teachers of reading. Students used this information to make decisions about topics to study. They independently sought readings related to the content they had identified as important to study. The instructor used class time for discussions about independent readings and activities designed to stimulate students' thinking about issues that students might wish to pursue. Students' course grades were based exclusively on an open-ended portfolio that was to document their self-reflection, intellectual growth, and awareness of underlying principles over isolated facts. The instructor also constructed a portfolio to document and to evaluated his role in teaching the course.

METHOD

Participants

There were two groups of participants in this study, one being the instructors who taught the six sections of the course. This group was comprised of three graduate teaching assistants, one assistant professor, and two associate professors. All had been classroom teachers for more than 5 years although their experience teaching this course varied. Their course evaluations for these sections were all above average. The second group was comprised of 165 undergraduate students enrolled in the six course sections (enrollment per section ranged form 19 to 28). They were required to take this course, which was the first in a two-course sequence devoted to the teaching of reading.

Survey Questionnaire

We conducted our investigation by asking the student participants to complete a survey questionnaire. The questionnaire was comprised of 11 Likert-scale items with a response range from 0 to 5. Each item was followed with a space for comments (the questionnaire is available from the first author). The questionnaire was administered at the end of the course by someone other than the students' instructor. Students were assured that the instructor would not see the completed surveys until the course grades had been filed and they were assured that their responses would be anonymous.

Analysis

Of the 165 undergraduates enrolled in the six course sections, 109 voluntarily returned the questionnaire. Their responses were analyzed both quantitatively and qualitatively. The quantitative analyses involved computing mean ratings for each item and comparing means across course sections by using analysis of variance (ANOVA) procedures. The qualitative analyses focused on analyzing students' comments for those items where statistically significant differences were found between course sections.

The qualitative analysis was conducted by three of the authors. We generated a coding system of categories and properties represented in the students' comments. The process of generating a coding system began with independent readings of comments to identify key words that summarized the main points. We met on two occasions to compare and discuss our individual application of code words to the data. This led to a provisional list of codes which we individually applied to the data (a final version of the coding scheme may be obtained from the first author). Again, we met to compare and discuss our coding. Consistency was maintained by comparing our individual coding and reconciling differences when necessary. The codes were entered into *Ethnograph* (Seidel, 1988), a computer program that allows for systematic searches of coded segments. These searches were used to identify patterns and themes that contributed to our understanding of the students' reactions to the different course sections.

RESULTS

We report on three questionnaire items that addressed major points of interest and that yielded statistically significant differences. We also report the qualitative analyses of comments offered for these items.

Students' Confidence about Teaching Reading

For the question "How confident are you that you are acquiring knowledge and having experiences that will enable you to be a successful teacher of reading?" A one-way ANOVA indicated a main effect for course section [$F(5, 101)=3.37$, $MS_e=3.02$, $p<.007$]. Post hoc comparisons (Fisher PLSD) revealed significant differences ($p<.05$) between the Constructivist section ($M=2.56$, $SD=.85$) and each of the other five sections (Decision-making, $M=3.71$, $SD=.85$; Study Guide, $M=3.60$, $SD=.94$; Theory Practice, $M=3.54$, $SD=.64$; Lecture, $M=3.38$, $SD=1.04$; Discussion, $M=3.33$, $SD=1.07$).

On average the students in all sections were moderately confident that they were learning what they need to know to be effective teachers of reading, although students in the Constructivist section expressed a mean level of confidence that was significantly below the other five sections. To investigate further the students' confidence levels, we analyzed the 96 comments they made about this item and their responses to a follow-up question asking "To what do you attribute your confidence or lack of confidence regarding the teaching of reading?"

The most prevalent comment across all sections was about a lack of field experience. Approximately one-third (32) of the students said that their confidence would be greater when they gained teaching experience in elementary school classrooms. The following comment is typical:

> I feel I will be more confident once I get into the classroom and gain experience with teaching reading. I attribute my lack of confidence to my lack of experience (student in Discussion section).

Furthermore, it was clear that lacking field experience did not always mean they were dissatisfied with the course work:

> ERD 342 was a great course. It gave us background knowledge of literacy learning. However, we did not have very many experiences in teaching reading in this class (student in Decision-Making section).

It is interesting to note that comments about lacking field experience were made by students who rated themselves as very confident (10), moderately confident (15), and not confident (7). A perception of needing field experience in conjunction with a reading methods course seems important irrespective of the students' level of confidence.

Approximately one-fourth (22) of the students felt that they did not know how to teach reading despite completing a reading methods course:

> I just don't feel like I could teach a child to read if I were asked to (student in Study Guide section).

There were 10 such comments made in the Study Guide section. In four of the other course sections there were 2 to 4 comments about not knowing how to teach reading, but no such comments appeared among students in the Theory/Practice section.

Relevancy of Course Work

Students were asked to rate and to comment on the relevancy of their course work to the realities of teaching reading in elementary school. The mean responses for each section reveals that students viewed the Theory/Practice section as most relevant. However, each of the other sections was rated moderately to highly relevant.

There was a significant main effect on this item [$F(5, 100)=6.01$, $MS_e=5.09$, $p<.0001$]. Students in the Theory/Practice section found their course work significantly more relevant ($M=4.60$, $SD=.51$) than did students in the Discussion ($M=3.64$, $SD=.67$), Lecture ($M=3.23$, $SD=1.24$) and Constructivist ($M=3.13$, $SD=1.26$) sections. In this section approximately one-third of the students chose to tutor in elementary schools for one of their grade requirements, and this experience might have led students to rate the course as highly relevant.

To investigate further what contributed to relevancy, we examined the comments provided by students who rated their course section as highly relevant (33) and those who rated their section as less than relevant (8). Two factors that contributed to relevancy were: (a) the extent to which there was attention given to different approaches to teaching reading, and (b) the instructor's use of examples taken form his or her own teaching experiences in elementary schools.

Effect of Grading Procedures

One of the factors that distinguished the six sections was the manner in which students were evaluated and graded. The Constructivist and Decision-Making sections used portfolio assessment exclusively, whereas the Study Guide section combined a portfolio project with exams. The Lecture, Discussion, and Theory/Practice sections used quizzes, exams, projects, and/or presentations to determine grades. To investigate the effect of the different types of evaluation, we sought responses to the question: "To what extent do you think the grading procedures used affected your performance in ERD 342?" Respondents were also asked to comment about the ways in which the grading policies and procedures affected their interest and ability to learn about the teaching of reading. Mean differences on this questionnaire item only approached significance ($F=2.174$, $MS_e=3.76$, $p=.063$). Nevertheless, students in the two sections that used portfolios exclusively had mean ratings (Decision-making, $M=4.04$, $SD=.98$; Constructivist, $M=4.00$, $SD=.39$) that were higher than students in the other four sections that did not use portfolios exclusively (Theory/Practice, $M=3.47$, $SD=1.50$; Discussion, $M=3.25$, $SD=1.28$; Lecture, $M=3.23$, $SD=1.48$; Study Guide, $M=3.00$, $SD=1.27$).

Because portfolio assessment may have contributed to higher student ratings on this item, we examined responses to the following: "Please comment about the ways in which the grading policies and procedures impacted your interest and ability to learn about teaching reading." Across sections there were many more favorable comments (27) than unfavorable ones (7) regarding the grading policies. In regard to portfolio assessment, there were many favorable comments (16) such as the following:

> Due to the fact that this course was strictly a portfolio, I felt that I never wanted to put an end to my learning not just because of the grade I might receive, but because of my personal growth (student in Constructivist section).

Although there were many students who expressed favorable views about portfolio assessment, there were other students who strongly disapproved of it (6). Their criticisms center around the stress they felt because course grades were determined solely on this one opportunity to exhibit their learning:

> I think it affected my performance a great deal. I had never done a portfolio before and I was very stressed about my grade for it (student in Decision-Making section).

CONCLUSIONS

The results allow us to draw tentative conclusions about students' perceptions of six different ways of teaching reading methods courses. Our tentativeness comes from a recognition that only 66% of students completed the questionnaire and we did not conduct in-depth interviews with students from each course section. In light of these limitations, we conclude the following.

First, students tend to maintain only moderate levels of confidence in their preparedness to teaching reading, regardless of the instructor's approach. Across the six sections, students' comments clearly indicated that their confidence was linked to their belief in the importance of field experience in preparing them to teach reading. There was a statistically significant difference between the Constructivist section which was the most inquiry oriented and other sections. The lower confidence ratings seem to be related to the instructor's application of the inquiry model in that topics were ill defined and students had primary responsibility for their own learning. Students accustomed to more teacher-directed instruction seemed anxious about the ambiguity inherent in this approach.

The seriousness of students' expression of insecurity is related to what one assumes is the objective in teaching reading methods courses. If one believes that taking a course on the teaching of reading in elementary school should lead to feeling fully prepared to teach reading, then the students' expressed lack of confidence is troubling. If on the other hand, one believes that taking a course on the teaching of reading should provide a foundation from which students can continue to learn about teaching reading through experience in the classroom and additional course work, then there will be less concern with this finding.

Second, students' ratings of course relevancy for the Theory/Practice section were higher, perhaps because some students had an opportunity to tutor elementary school children. Likewise, students' comments indicated that their perceptions of a course's relevancy was linked to the instructor presenting a variety of approaches to teaching reading and to the use of real teaching examples from the instructor's experiences.

Third, inquiry-oriented approaches to teaching may be accompanied by more open-ended evaluation and grading practices, which was the case in the present study. The two sections using more inquiry-oriented approaches used portfolios exclusively to assign grades. Students' ratings in these sections indicated that grading procedures influenced their performance, and their comments indicated that for the most part they believed the influence to be positive.

Combining our teaching experiences with the present findings, we believe that students' perceptions are the result of a complex interaction among many factors including the instructor's approach, grading procedures, the degree to which course components deviate from traditional college courses, and most clearly from this study, the degree to which teaching experience is integrated into the course. The extent to which these six course sections were inquiry oriented, traditional craft, or competency based did not significantly alter students' perceptions regarding their preparedness to teach reading. We suspect that what is needed are more systemic changes. Across the United States, colleges and universities are undertaking bold experiments in teacher education. For example, at our university an experimental program in elementary education is underway. It is being conducted by a team of instructors working cooperatively to provide a program of study based on a constructivist epistemological orientation with emphases on multiculturalism, reflectivity, equity, and early field experience.

In closing, we note that undertaking this study has had a positive influence on teaching in our department. The study has generated more discussion over lunch and in the hallways than would have occurred otherwise and consequently more interest in and attention to how we can better prepare pre-service teachers to teach reading.

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PRESERVICE ELEMENTARY TEACHERS' EVOLVING PERCEPTIONS OF PORTFOLIO ASSESSMENT

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As the gap between reading assessment and innovative instruction has become wider, many researchers have suggested portfolio assessment as a replacement for traditional assessment (Lapp & Flood, 1992; Tierney & McGinley, 1987; Valencia & Pearson, 1987). Portfolio assessment has been presented as a way for teachers to orient their assessment practices so that they are ongoing and integrated with instruction (Eggleton, 1990; Lapp & Flood, 1992; Tierney, Carter, & Desai, 1991; Valencia, 1990). Portfolio assessment also provides opportunities for learners to take more control of the learning process (Vavrus, 1990). However, as Calfee and Hiebert (1991) note, the incorporation of portfolio assessment implies major changes in the classroom. Changing current patterns of classroom practice will require special training of preservice and inservice teachers for assessment of literacy to move beyond traditional instruction/assessment practices.

The literature on portfolio assessment includes a great deal of information describing how such evaluation might be incorporated in reading and writing instruction (Eggleton, 1990; Lucas, 1988; Tierney et al., 1991). However, few studies have investigated attempts to utilize portfolios or examine actual portfolios over time. Studies examining the attitudes and practices of inservice teachers (Dewitz, Carr, Palm, & Spencer, 1992: Flood, Lapp, & Monken, 1992; Hiebert, Hutchison, & Raines, 1991) showed that teachers had varying perspectives of the purposes and utility of portfolios. Little or no research, however, has investigated preservice teachers' experiences with portfolios. The purpose of this exploratory study was to examine preservice elementary teachers' experiences and attitudes as they incorporated portfolio assessment into their instruction of individual elementary students in reading and writing.

METHOD

Participants

Participants were 24 preservice elementary teachers enrolled in a reading methods course taught by one of the researchers. This course required tutoring individual elementary school children in reading and writing. All participants had previously taken a reading methods course (for which two of the researchers were instructors) that involved teaching elementary school children in whole-class and small-group settings. This prerequisite course, which involved field experience and lecture, required participants to teach reading and writing under the joint supervision of an elementary school teacher and their college instructor. Most of these students taught via traditional as well as whole-language approaches. In 20 classrooms, the supervising teachers used basals as the basis for reading and writing instruction in addition to whole-language approaches which allowed for the use of literature and incorporated journal writing and process writing. In 4 classrooms, the supervising teachers integrated the language arts and emphasized whole-language approaches. These approaches included the use of a wide variety of children's literature and other kinds of print, journal writing, process writing, language experience activities, and comprehension strategies.

During the lecture phase of the course, both traditional and whole-language approaches were discussed. However, a whole-language perspective was emphasized. Students were encouraged to experience a range of methods in teaching reading, writing, and oral communication in both small-group and whole-class settings. In addition, they were encouraged to use whole, natural, and varied forms of print and to provide specific activities designed to instill in children a love for reading and writing. Such activities included reading aloud to children and encouraging them to respond in a variety of ways; leading children in both language experience and share book approaches; leading children in journal writing and process writing; and leading children in choral reading, readers' theater, and other forms of dramatization.

Procedure

Portfolios were described as collections of student work which may include records of what each student has read, written responses to reading, informal comprehension checks, daily work samples, anecdotal notes taken during instruction and conferences, writing samples at different stages of process writing, and students' statements about their progress (Tierney et al., 1991). Preservice teachers had primary responsibility for determining the contents of the portfolio as long as the following were addressed when appropriate: (a) awareness of environmental print, (b) print-to-speech match, (c) reading comprehension, (d) word recognition/sight vocabulary, (e) decoding skills, (f) listening comprehension, (g) writing and/or dictated experiences, (h) attitude toward reading and writing, (i) some form of student self-assessment, and (j) student's comments and selections of best work. Both preservice teachers and the elementary students had access to the portfolio. The students kept the original, whereas the preservice teacher kept copies.

The instructor modeled the use of retelling guides, informal reading inventories, and environmental print awareness surveys with elementary school students in the classroom and provided checklists to keep running records (Eggleton, 1990). In this way, participants were shown how to use the portfolios for assessment and instruction as they tutored individual students in reading and writing. Each participant tutored a child enrolled in public elementary school twice weekly for 45-minute sessions over 12 weeks. Participants also met as a class for 2 hours weekly, 30 minutes of which were devoted to addressing particular issues of portfolio assessment experiences and exchanging ideas.

Data analysis

Data sources included (a) participants' journals; (b) their responses to a questionnaire in which they discussed their unique ways of utilizing portfolios, the problems they encountered, and their future plans for using portfolio assessment; (c) case reports of individual students; and (d) students' portfolios. Data were collected over a 12-week time period and were analyzed via constant comparative analysis (Glaser & Strauss, 1967). As analysis proceeded, matrices displaying the data were developed. Data were triangulated across the researchers and all data sources to control for researcher bias.

RESULTS

Analyses of the data revealed an awareness of the benefits as well as much confusion concerning the nature and purpose of portfolios. Most preservice teachers stated that developing portfolios had convinced them of the value of using this type of assessment with their future classes. Some, however, appeared to simply parrot their instructor when asked about the utility of portfolio assessment. These participants used such phrases as, "reading and writing taught in meaningful context," and "authentic, ongoing and integrated with instruction." This observation was noted by one of the researchers who instructed the class and recognized these verbatim phrases as ones she had used in class. It was not clear whether these particular preservice teachers fully grasped the concepts underlying portfolio assessment. Even though their responses to the questionnaire were not graded, it is possible that they were merely trying to please the instructor. The results of this study, therefore, must be interpreted in light of this possibility. The following trends concerning preservice teachers' are discussed below.

Benefits of Portfolio Assessment

Self-esteem, positive attitude toward reading and writing. Many preservice teachers reported that clear evidence of growth increased the self-esteem of both the child and the teacher and resulted in a more positive attitude toward reading and writing. In the context of day-to-day work, they had, in many cases, not been aware of much progress. Examination of the portfolios, however, revealed progress that surprised many of the children and teachers.

Participants looked for signs of improvement and strengths as well as weaknesses. Many reported that focusing on the positive resulted in increased motivation and self-esteem in their students. One participant noted portfolios as "something to use when traditional assessment does not reveal progress."

Use of the portfolio influenced preservice teachers to address the affective aspects of assessment/instruction, including the perceptions and feelings of their students. One participant noted that her student was shy and nonverbal at first, and that working one-on-one with him built up his self-confidence. She was particularly impressed with his statement, "You must like me, huh?" Other participants noted, "A discouraged child can see improvement," and "It [portfolio] builds self-esteem as the teacher concentrates on personal improvement instead of on how a student compares to others."

Accurate, thorough assessment. Nearly all preservice teachers felt that they were able to obtain more and varied information about their students and thus, a more accurate picture of their reading and writing abilities. The attitudes of many preservice teachers were reflected in the following quotes:

> Portfolios show what skills and strategies students really possess.
> Portfolios allow the teacher to observe skills in practical application over time.
> It's the only way to get a true picture of individual students.
> It allows you to see the student's imagination, creativity at work instead of a score; it displays the student in a more realistic light.
> Portfolio assessment helps make grades valid.

Students' awareness of progress. Several preservice teachers noted that portfolios and the self-assessment component made their students more aware of their strengths and weaknesses and motivated them to address their individual reading and writing goals. One participant stated that portfolios were "a way of having the student directly involved in his own assessment; they get to choose and help the teacher; it made my student point out what he needed to work on." Other participants commented:

> The student is able to see all of her work and improvement and has the opportunity to explain everything and also understand weaknesses.
> The child and the teacher can assess together; this is a good way for the child to be reinforced with her work.
> The child is specifically shown what his strengths are and has a clearer, more in-depth sense of where he needs improvements.

Concrete, tangible evidence for facilitating communication. Nearly all participants noted that the tangible evidence provided by portfolios was rewarding to themselves as well as their students and felt that progress would be particularly evident to parents and administrators. One participant stated, "it would be much more rewarding to really *see and hold* in front of you what your students could do rather than just to see numerical scores of a test." Other supporting statements include:

> It [portfolio] shows improvement of a child over time to the child, parents, and administrators.
> I felt more confident about my assessment because I have the samples to back my assessment up.
> It gives a concrete report of a child's work.
> I can't imagine a parent or administrator who wouldn't want to see a child's improvement.
> The advantage is feedback and open communication between the student and the teacher afforded by the portfolio.
> The student's progress becomes more visual.
> Often it is difficult to see improvement unless you look at the big picture; portfolios allow you to do this.

Ongoing, integrated assessment and instruction. Some preservice teachers clearly understood the underlying concept of integrating instruction with assessment and adjusted their instruction as a result of analyzing their students' work. These preservice teachers understood that portfolios were a way to *teach* as well as *assess:*

It's more effective than regular teaching.
It allows a teacher to determine exact areas needing to be strengthened.
The biggest advantage is the insightfulness gained in order to tailor reading programs to fit the needs of the individual student.
It's better than testing because it is involved with instruction rather than a separate activity like a test.

For others, however, the awareness of this purpose of portfolios appeared to emerge at the end of the semester. One participant explained, "This activity really aided me with my instruction."

Writing as part of reading. Many teachers became more aware of writing as a part of reading instruction and experienced teaching writing as a process. Teachers noted that their students' writing increased in quantity and improved in quality as the semester progressed. One participant noted, "I learned a lot about reading and the good and bad points involved in process writing." Another participant reported having better understanding of her student's problems with oral reading after looking at her writing. One participant also commented, "I think it was very helpful in aiding me to see how reading and writing develop."

Nearly all of the participants made comments about their students' writing in relation to reading, suggesting that the very act of keeping a portfolio directs the teacher to place more attention on writing because of the need to put something tangible in it. Although the emphasis on writing could be a result of the instructor's requirements to include writing or dictated experience samples in the portfolio, the fact remains that the participants' attention was directed to viewing writing as part of reading instruction.

Problems with Portfolio Assessment

Although most participants clearly saw the benefits of keeping portfolios to document students' growth in reading and writing, their comments and methods revealed a lack of in-depth understanding of portfolio assessment. Most problems the participants encountered were related to misconceptions about the nature and purpose of portfolio assessment.

Desire for more structure. Several statements indicated that many participants were uncomfortable with the lack of specific guidelines concerning the contents of the portfolio:

There aren't any guidelines to go by.
It's hard to know what I'm supposed to see.
I had trouble getting started; I just did not know what to do.
I am a little uneasy with it; I hope I can get into a school that uses it and can get tips from other teachers. If not, I will order some books.
I need more background on how to conduct portfolio assessment.

Failure to see portfolios as inclusive and as ongoing instruction integrated with assessment. Several statements made by the participants revealed their confusion about the inclusive nature of portfolios and their perception of portfolios as something separate from instruction:

> I'm not sure of how to use it; I will just have to use a collection of work and detailed observation notes to assess reading progress.
>
> I will use teacher-made tests, observational notes, and student work instead of a portfolio.
>
> I will use portfolios, but also use observations of basic reading skills.
>
> I like them [portfolios], but they should not be the sole means of assessment for a child.
>
> I plan on using portfolios in conjunction with more formal assessment.
>
> I plan on using this somewhat; I plan to keep all of the work on file and briefly assess toward the end of the year.

Limiting portfolios to writing samples. Many preservice teachers saw portfolios as limited to writing folders. They based their opinions largely on their students' writing samples and their attitude toward writing. Although this emphasis on writing appeared to draw attention to a much-neglected area, it was a source of frustration for those working with students who showed great resistance to writing. Ignoring students' progress in reading, many participants felt that their students made no progress over the semester because they had no "tangible writing products." Even dictated stories were seen as of little value because the student did not actually "write":

> I had trouble getting my student to write for me; but I used dictated experience to come up with some of his work.
>
> This type of assessment isn't helpful if you have a hard time trying to get your student to do writing samples like I did.
>
> I would have my children write a short passage every morning and on random days collect the writings; then let children choose their best works.

Focus on deficiencies. In spite of many statements about portfolios being used to identify both strengths and weaknesses, many preservice teachers emphasized their students' deficiencies in their actual use of portfolios:

> The teacher has to look for every little thing that's wrong.
>
> You can look at writing to see what needs to be worked on.
>
> It was hard to get my student to see his weaknesses.
>
> It [portfolio] is only a sample because the pieces put in are chosen and probably represent the better work of the child most of the time.

Discrepancy between statements about portfolios and actual use. Although most participants defended the use of whole language and portfolios because of the great amount of in-depth information yielded, some of these same participants appeared to approach their portfolios from a skills-oriented perspective and focused on punctuation and mechanics rather than on students' self-expression and fluency. For example, one participant stated, "I emphasized writing mechanics since I didn't have anything else concrete to base my assessment on." They were unable to use students' writing samples as curricula. For example, one participant who lamented that the portfolios did not yield useful information, kept several dated samples of her student's writing and noted that it "was erratic," not realizing that she could learn about specific strengths and weaknesses from these detailed samples. Another participant commented. "This student did some good writing for a second grader." Yet documented his progress from worksheets that he had completed.

Grades. All of the preservice teachers expressed anxiety about the grading process. Most believed that portfolio assessment was incompatible with grades. Their concern for grades is perhaps best summed up by the comments of two participants: "A disadvantage is that a portfolio doesn't yield a numerical score," "Portfolio assessment is very useful if you are working in a system that does not require you to assign a grade to the student." Even those participants who considered using checklists to convert students' work into percentages and grades expressed concern about how to deal with the "great amount of paperwork."

Time management. Although most of the preservice teachers reported that the experience of developing portfolios had convinced them to use portfolio assessment in their future classes, they felt that it would be time-consuming and difficult to manage with an entire class. One participant stated, "It would be time-consuming in a classroom, but well worth it." Another noted, "It is somewhat time-consuming; many teachers would not want to take the time to gather the information and assess the work."

DISCUSSION

Many of the results of this study are consistent with findings of two recent studies (Dewitz et al., 1992; Flood et al., 1992) that examined inservice teachers' use of portfolios in the classroom. Both the inservice teachers in these two studies and the preservice teachers in the current study maintained that portfolio assessment was more ecologically valid than traditional assessment. Participants in the current study, as those in Dewitz et al. (1992) also reported that portfolios increased their awareness of students' growth in reading and writing and prompted them to consider aspects of reading and writing which they had previously ignored.

Although participants in the two previous studies and in the current one acknowledged that a major benefit of portfolios was their accuracy, many emphasized the evaluative use of portfolios over their instructional applications. Inservice teachers in Flood et al.'s (1992) study felt that portfolios should be used for report cards, but not for instructional planning. Similarly, some preservice teachers in the current study had difficulty understanding the use of portfolios for instruction and focused instead on the evaluative benefits that facilitated communication with parents and administrators. Flood et al. (1992) suggest that a reason for this misconception is that many teachers saw portfolios as collections of completed works rather than work-in-progress. A similar explanation is suggested in a comment made by a preservice teacher in the current study: "I plan to keep all of the work on file and briefly assess toward the end of the year."

In addition to the belief that the purpose of portfolios is primarily evaluative, participants in Flood et al.'s (1992) study as well as those in the current study tended to view portfolios as limited to writing folders and excluded materials related to reading instruction. Participants in the current study who held this view were often frustrated when working with students who resisted writing and saw little value in their portfolios when they did not include "tangible writing products."

Perhaps the most consistent findings among these three studies of inservice and preservice teachers were concerned with the structure of portfolios and the problems of classroom management. Participants in the current study were particularly concerned with the lack of guidelines for determining the contents of portfolios. Some preservice teachers expressed a desire to be told exactly what to include in their portfolios. Concern about the freedom of portfolio assessment and lack of assessment guidelines was also voiced among inservice teachers in the Dewitz et al. (1992) study. It is interesting to note that the inservice teachers in Flood et al.'s (1992) study imposed their own structure on their students' portfolios because they believed that they were "the best designers of the portfolio and that their students would be best served by a portfolio that had predetermined categories."

Teachers in Dewitz et al.'s (1992) study maintained that it was necessary to design portfolios because of classroom management issues, another problem about which participants in the current study expressed concern. Such factors as maintenance, storage, discipline, and time management were noted by participants in both studies as constraining portfolio assessment. Although preservice teachers in the current study did not have to deal with these issues since they were only responsible for working with individuals, most considered them when discussing the use of portfolio assessment in their future classrooms.

Although there were many consistencies across results of the current study and similar studies, findings related to the effect of portfolios on students' attitude and interest toward reading and writing and self-esteem differed. Unlike Dewitz et al.'s study (1992) in which few teachers were concerned about assessing children's interests and attitudes toward reading, preservice teachers in the current study reported that the growth and improvement made evident by portfolios positively affected the attitudes of both themselves and their student. That is, the child's growth made the tutor feel more confident as a teacher and the child more confident as a learner.

Another finding of the current study that differed from previous ones was the tendency of portfolios, including the self-assessment component, to make the students more aware of their strengths and weaknesses, and thus more involved in their own learning. Teachers in Dewitz et al.'s study (1992) did not appear to encourage the active participation of their students and explained that their children needed preplanned portfolios.

Different findings among the studies examining inservice and preservice teachers' perceptions and experiences of portfolio assessment may be explained by several reasons. Differences in the ways the researchers trained the participants in the use of portfolio assessment, varying backgrounds of the participants, that is, inservice and preservice positions, and the different settings in which portfolios were used likely contributed to inconsistent findings in these studies. It must be also noted that in the current study, participants worked individually with students and were not responsible for an entire classroom as in the case of the inservice teachers.

It is very likely that the findings of this study could have been predicted by reviewing the research on teacher beliefs and practices. Researchers (Crow, 1987; Ginsberg & Newman, 1985; Mardle & Walker, 1980) have concluded that teacher education courses have little effect on the attitudes and beliefs of the students in them. These studies indicated that teachers negotiate methods and materials in order to fit them into their own preexisting schemata concerning educational practices, and that the courses are more or less impotent because of the powerful effects of prior experience (Crow, 1987). Examples of this are how the preservice teachers focused on summative evaluation rather than integrated assessment and instruction, and how they emphasized skills-based instruction as opposed to methods reflecting the instructor's more holistic views.

Hollingsworth (1989) argues that exposing students to contrasting viewpoints in the field experience benefits them by forcing them to consider new approaches which may contradict their own ideas. Thus, traditional pairings of like-minded preservice teachers and cooperating teachers as commonly found in U. S. teacher training programs is actually a hindrance. Although the aforementioned research challenges the confidence of the reading methods instructors, it also relieves the empathetic suffering that they experience when it becomes apparent that one or several of their students have had disturbing field experiences due to conflicts between classroom-based and field-based elements of preservice teacher education programs. It is plausible that not all of the preservice teachers shared the instructor's own perspectives on language and literacy.

IMPLICATIONS

Results of this study indicate that having preservice teachers use portfolio assessment as part of a reading methods class can influence their perceptions of assessment in directions compatible with holistic instruction and reflective practice. Nearly all participants seemed convinced that portfolios accurately assessed students, positively affected students' self-esteem and attitude toward reading and writing, produced students more aware of their learning, and facilitated communication with parents and administrators. However, many of the participants, in an apparent attempt to please their instructor merely echoed what they had heard about portfolio assessment in the classroom and did not fully grasp its purposes or implementation.

The concepts of flexibility, self-discovery, and self-assessment associated with portfolio assessment preclude a prescription for "the correct portfolio program." However, results of this study indicate that a teacher interested in setting up a portfolio program in the classroom would perhaps need more explicit information than was provided in this methods course. Seeing reproductions of bits and pieces of portfolio discussed in textbooks did not give sufficient guidance to some of the novice teachers attempting to implement such a program in a tutoring format. It is also likely that a teacher attempting to make the transition from traditional to portfolio assessment in a whole-class format would encounter similar problems.

Clearly, the promotion of portfolio assessment necessitates more than a description of it. The need for preservice teachers to see its implementation in the classroom is perhaps best expressed in the following comment by one of the participants in this study: "Maybe portfolio assessment has not appealed to me because I haven't seen a real classroom teacher using it. It seems to me like a lot of trouble."

Changes in instruction and assessment present unique challenges to those involved in teacher education. As preservice and inservice teachers and educators grapple with the complexities of portfolio assessment, practices and beliefs will change as new ideas emerge. As Flood et al. (1992) state, both time and practice will be needed to allow teachers opportunities to implement and redefine instruction and assessment. The issue of whether teachers will persevere in teaching "the way they were taught" during their own formal schooling experiences or whether they will be in any way affected by the well-intentioned efforts of their methods instructors invites further research.

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THE PORTFOLIO-AS-TEXT: LITERACY PORTFOLIOS IN PRESERVICE, UNDERGRADUATE, TEACHER EDUCATION

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In this study we look at a sample of teacher portfolios developed by our preservice, undergraduate students as a requirement for their literacy methods sequence. Our purpose is to examine the relationship between learning and assessment when the tool or vehicle for both is the portfolio.

There are two contexts for discussing portfolios in education: portfolios for the purpose of student assessment and portfolios for the purpose of teacher assessment. In student assessment, emphasis is given as much to a portfolio process in which learner and teacher collaborate in the ongoing documentation and reflection of work. This process serves as a basis first for teacher evaluation and student self-evaluation as well as for instructional decision-making (see Valencia 1990; Valencia, McGinley, & Pearson 1990; Gardner 1991; Tierney, Carter, & Desai 1991). In teacher assessment, the emphasis falls on the product. The teacher portfolio is construed as a representation of knowledge and competence. In the Teacher Assessment Project (TAP) at Stanford University (Wolf, 1991), the literacy teacher is assessed in the areas of planning and conducting integrated language arts instruction, assessment, and constructing a classroom environment (Vavrus & Collins, 1991).

There is a tension between these two contexts of portfolio use. Writing about teacher portfolios, Bird (1990) describes this tension in terms of the contrast between the portfolio-as-workspace and the portfolio-as-display. When considered as workspace, the portfolio focuses more on process and learning—the construction of knowledge and expertise. This orientation is evident in work on student assessment. When considered as display, the portfolio focuses primarily on the product and accountability—the demonstration of knowledge and expertise. This orientation is evident in the TAP work.

The situation of undergraduate, preservice teacher education brings this tension between workspace and display to the surface. Teacher trainees are at once students and prospective teachers. In their training they begin to develop knowledge and expertise in teaching. "Workspace" portfolios function well as a form of student assessment to promote growth. But as to-be-certified teachers they must achieve a level of knowledge and expertise that qualifies them for teaching. "Display" portfolios function well as a form of teacher assessment that facilitates the demonstration of knowledge and competence.

In this situation, it makes sense to incorporate both purposes in a portfolio process. The more appropriate analogy is to the portfolio-as-writing process or portfolio-as-text. In this analogy, cognitive, transformative processes attributed to writing a text pertain to the process of building a portfolio (after Flower & Hayes, 1981; and Bereiter & Scardamalia, 1988). Criteria for text—for example, purpose, structure, and coherence—pertain to the completed portfolio. What is central to the portfolio-as-text analogy is that in building the portfolio, the prospective teacher, the portfolio's author, works with the intent to construct a coherent portfolio representing the self as literacy teacher.

In what follows, we examine portfolios constructed by our students at the end of their fall and spring term work in methods of literacy teaching. First, we describe the instruction we provided in the sequence of literacy methods coursework, focusing on the assignment to construct portfolios at the end of each term. Second, we discuss our students' portfolios in terms of the workspace and display functions discussed above. Third, we conclude by discussing implications for the use of portfolios in methods instruction.

THE CONTEXT OF PORTFOLIO CONSTRUCTION

The Program

Our study is a self-study of the experimental use of portfolios in our sequence of literacy methods courses during the 1991–1992 academic year. Juniors in the Elementary Education Program at the University of Vermont took a series of five methods courses in elementary teaching. Three of those courses defined a year-long sequence in methods of literacy instruction. During the fall term students took courses in children's literature and an introduction to literacy methods. During the spring term they took a course on literacy development. Thirty students took this sequence. The sequence was field-based, with students spending two mornings a week in one of two schools. They met on campus approximately once a week. Field supervision and campus instruction was carried out by the first and third authors of this study.

Students

All students in the literacy courses were Education majors in their junior year in the Elementary Education Program. As part of their previous year's work they had spent one semester working with a classroom teacher in the field. As part of a larger study of the field-based literacy sequence, 12 volunteers agreed to be interviewed at the end of the fall and spring terms and to make their work available. These interviews were completed for 7 of these students. The portfolios of these students were analyzed for this study. Six of these students are female and one is male. In what follows we use feminine pronouns for all students to maintain anonymity.

The Literacy Sequence

The literacy courses were guided by the following goals and assignments. The children's literature course focused on developing students' knowledge and familiarity with the genres of children's literature; and it focused on discussing children's literature with pupils. The assignments for the course included a study of a children's author, reviews of children's literature texts, write-ups of two experiences reading books with children in the field, journal entries, interviews with their classroom teachers, and the teacher portfolio. The assignment to construct a teacher portfolio was a common assignment for this course and the introduction to literacy methods course. Students drew upon the assignments for both courses in constructing their fall portfolios.

The course on methods of literacy instruction focused on developing students' knowledge of reading and writing processes and applying that knowledge in interaction with pupils. The assignments included a write-up of a child doing a reading think-aloud, a lesson plan for discussing a text with a group of children, three write-ups of experiences of personal growth, responses to readings, field entries, and the teacher portfolio.

The course on developmental literacy, taken during the spring term, focused on the assessment and instruction of students in responsive teaching. Assignments for this course included conducting the Qualitative Reading Inventory (QRI; Leslie & Caldwell, 1990) with a pupil, and an analysis of a collection of the same pupil's writing samples. Students then developed a reading/writing lesson plan for the same pupil. Other assignments included responses to readings, journal entries, and the teacher portfolio. Students drew only from these assignments in constructing their spring portfolios.

The assignments for the three courses can be divided into two types—reflection assignments and activity assignments. The field journals and reading responses constitute the reflection assignments. These assignments asked students to respond reflectively to the readings and to their experiences in the field on an ongoing basis. The activity assignments required students to complete a particular activity, usually in the field, and to write up the results of carrying out the activity. During portfolio development, students selected from among these two types of assignments in constructing their portfolios.

Field Experience

Students were placed in classrooms in one of two schools One school was in an urban setting and the other in a suburban setting. We refer to the schools as the urban and suburban schools. Working with the classroom teacher, students helped to deliver instruction. They were in the field for 2-hour blocks twice a week. The instructors observed and debriefed students during days in the field. Students were placed in one of two schools during the fall term. During the spring term, students switched schools.

Portfolio Construction

Portfolio construction took place during the final 2 weeks of the fall and spring terms. Two consecutive class sessions, one per week, and each 2½ hours long were devoted to work on the portfolios. Completed portfolios were shared and given to the instructors at the third session. During the first two sessions, students were provided the following directions. They discussed the idea, presented by the instructors, that the portfolio is a vehicle for representing oneself as an emergent teacher of literacy using evidence from one's work. It was stressed that this work, in the case of our students, encompassed all activity and reflection assignments done for the literacy courses.

Students initially brainstormed areas of knowledge and expertise that they felt characterized their learning; then they identified evidence from their course and field work that could serve as evidence or documentation for this knowledge and expertise. Students were first asked to do this as a written freewrite and then to share and discuss what they had written in groups. Based on this initial planning, students were asked to brainstorm categories of knowledge or expertise and to use them in drafting an outline for the portfolio. Students were also directed to provide "prefaces" or explanations for the portfolio as a whole and for each category within the portfolio. These prefaces were intended to explain the portfolio and its categories in terms of what was included and how the inclusions were significant in depicting the student as an emergent teacher of literacy. As a result of this direction, the following outline characterized the portfolios:

I. Preface/Explanation of Portfolio
II. Categories of Knowledge and Expertise
    A. Category 1
        1. Explanation of Category 1
        2. Documentation for Category 1
. . .
    #. Last Category
        1. Explanation of Last Category
        2. Documentation for Last Category
III. Closure/Explanation of Portfolio

Finally, students were asked to bring a draft of their portfolio to the second session to receive and provide feedback from other class members.

LOOKING AT THE PORTFOLIOS

As described, the portfolios consisted of (a) explanations or "prefaces" to the portfolio as a whole and to sections within the portfolio, and (b) documentation of knowledge and expertise. These two aspects of the organization of the portfolio serve as the basis for analysis.

Documentation of Knowledge and Expertise

In the fall and spring portfolios, activity and reflection assignments were included as entries by all students. All activity assignments were selected as an entry by four or more of the seven students. This was true for the fall and spring portfolios. All students included reflection assignments as entries in their fall and spring portfolios.

That the majority of activity assignments were used by all the students, indicates the degree to which the portfolios were defined by the activity assignments. In the fall portfolios 65% of the entries were activity assignments and 56% were activity assignments in the spring portfolios. In portfolio construction, emphasis was given to documentation, for example, the use of evidence of knowledge and expertise such as pupil work samples, lesson plans, and so on. In the literacy courses, documentation came from activity assignments based in the field. As a result the portfolios were primarily a display of completed activity assignments.

If the primary purpose of a literacy methods sequence is to develop knowledge and expertise in the domain of literacy teaching, then the dominance of the activity assignments is warranted. They are the instructors' vehicle for developing and shaping students' knowledge and expertise transportable, in principle, to professional practice. On the other hand, if the purpose of a literacy methods sequence is to have students construct knowledge and expertise in literacy teaching and to represent it in a portfolio as a culmination of their learning, then the activity assignments are a severe constraint. Students are not in a position to make choices about what knowledge and expertise gets developed, albeit within a frame for literacy teaching provided by the course.

Explaining the Portfolios

Though the activity and reflection assignments tended to be included in the portfolio intact, self-contained in their meaning, it was possible for students to construct a meaning greater than the sum of the individual entries through the explanations provided for the portfolio as a whole and for each category. To determine the extent to which students saw the portfolio as a container in which work is displayed or as a vehicle for articulating and documenting themes about literacy teaching, the first two authors coded all statements as to whether or not they articulated an idea about literacy teaching. Following the principles of Glaser and Strauss' (1967) constant comparative method, this coding system was subsequently refined to include three types of statements: statements about what was contained (content statements), statements about why an entry was contained (purpose statements), or statements articulating an idea or a feeling about teaching literacy (idea/affect statement).

Content statements were considered to contribute least to building thematic unity in the portfolio, whereas idea/affect statements were considered to contribute most to building thematic unity. Where a statement could be coded in one to two ways, it was coded as the type of statement contributing most to thematic unity. In doing these analyses, the first two authors developed the system collaboratively. Both authors then coded three different portfolio explanations. Differences in coding these explanations were also resolved collaboratively.

Displaying content versus developing portfolio themes. In contrasting the percentage of statements expressing an idea or feeling (idea/affect statements) with those that did not (content and purpose statements), we find that approximately half of the statements in the explanations describe content or state a purpose (59% and 49% in the fall and spring portfolios) and the remaining half are idea/affect statements. Though there is a trend toward more idea/affect statements, the more salient fact is that the description of documentation took up as much space in the explanations as interpretive or personally meaningful statements.

Although no standard exists, it can be argued that the relative weight given to the description of what is contained is a function of students' belief that they were to identify entries and to state reasons for including them. This information is necessary if the underlying principle of the portfolio is to display knowledge and expertise. Consider these sequences of statements of Students #1 and #2. Each sequence of statements represents the complete statements made about an entry or entries. The statements are made in the explanatory preface to the portfolio as a whole or to a category within the portfolio:

Student #1

—From the "Preface" to the fall portfolio:

purpose	In the first section, I have included some examples of reading books with children and how it is important.
content	There are two papers;
content	one deals with an actual plan then carrying the plan out,
content	and the second deals with understanding how children make sense of what they read.
idea/affect	These papers are important because they demonstrate that there is more than one way to read books with children and then assess and understand what they know.

—From the preface to "Professional Knowledge" in the spring portfolio:

content	Also in this section, I wanted to include . . . my lesson plan paper.
idea/affect	I feel that the paper demonstrates how I have taken a child's strengths and built a lesson around that.
idea/affect	The lesson is based on how the child learns best, and built on the concept of integrating reading and writing around a given text.

Student #2

—From the preface to "My Opinions, Ideas, and Growth as a Teacher," in the fall portfolio:

purpose	Card 1 dated 9/21/91 expresses my response to a formal definition of reading.
purpose	I included it to show how I am developing an understanding of reading.

—From the preface to "Planning Instruction" in the spring portfolio:

idea/affect	The paper within this section shows my ability to take the information I gathered by assessing a student to design a series of three lessons that address her needs.
purpose	It also shows my ability to [provide a rationale for] my plans for instruction.
purpose	I have included the entire paper because it is one unit that demonstrates the above statements.
content	It consists of three lesson plans, a text analysis, and a rationale for my teaching procedures within the lessons.
idea/affect	I feel that this single unit shows best my ability to take into account a student's special needs;
idea/affect	for if you do not address a student's needs when teaching then you are wasting your time and theirs.

In these examples, the basic pattern is to identify an entry, state the purpose for its inclusion, and to articulate an idea about literacy teaching connected to the entry. This level of explanation is representative of the explanations provided in all the portfolios.

One difference between the fall and spring portfolios is the presence of the idea about responsive teaching, consistently referenced and documented in the spring portfolios. In the fall portfolios, no single idea was documented by the majority of students. The spring course in developmental literacy was coherent in its primary focus on responsive teaching and the activity assignments designed to put that theme into practice. This coherence led to the inclusion of explanation and documentation of responsive teaching in all the portfolios. However, as with the fall portfolios, these idea/affect statements referred to single entries such as the lesson plan assignment, or to a small subset of entries such as the Recommendations for Instruction in the QRI and writing samples assignments. Students did not provide explanation and documentation about responsive teaching that defined it as a theme of the portfolio as a whole.

Expressing identity. Though the explanations present ideas that display knowledge and expertise in teaching literacy, significant emphasis is given to the importance of the experience working with children, and the importance of the experience constructing the portfolio. In both instances the effect is the emergence of students' voices as teachers. If one underlying principle of the portfolios is to display knowledge and expertise, a principle important to the students is to articulate their emergent identity as teachers.

Consider the following example. Student #3 articulates how her experiences working in the field have great meaning for her:

—From the preface to "Growth at the Urban School" in the fall portfolio:

purpose	This section is designed to show my growth with a class over thirteen weeks.
idea/affect	It goes from being an observer to part of the family to finally my making an analysis of where I had been and how I felt about it.
purpose	I'm including this section for me,
idea/affect	The Urban school is an experience I'll never forget.
idea/affect	It showed me what teaching is, not what teaching could be.

—From the preface to "The Suburban School" in the spring portfolio:

idea/affect	This semester I experienced a totally different type of classroom and school.
idea/affect	I didn't have the same feelings.
idea/affect	I never felt I was a part of the "family," like I did last semester,
idea/affect	but I felt I came to terms with a lot of mixed feelings.
idea/affect	I didn't know my role in the classroom,
idea/affect	so I had to find it.

For Student #3, the experience entering into community settings as an adult participant is at once traumatic and exhilarating. It is a vehicle for her own growth. Student #3's explanations capture the transition faced by elementary education students as they move out of the role of learner and into the role of teacher of children. At this stage of their training and development, the portfolio becomes a vehicle for expressing the exhilaration and awareness of their emergent, professional identities. In the portfolios of the seven students, this identity is represented by a selection of reflections.

A related purpose is expressed by Student #4. Her sense of identity as a teacher is not expressed in terms of the experience in the field but in the ongoing opportunity to engage in reflection during the literacy sequence:

—From the category, "Assessment," in the fall portfolio:

idea/affect	As I make the transformation from student to teacher I believe it is important to periodically make the reciprocal shift.
idea/affect	We are all learners and must continue to be so throughout our lives.
idea/affect	One way I feel helps to keep me in touch with my ever-changing views is through constant assessment of my work and ideas
	. . .
idea/affect	There are many ways of reflection that signify growth and aid in making self assessment.
idea/affect	One of the ways I have found best [is] through [journal entries].

—From the "Preface" to the spring portfolio:

idea/affect	My teacher portfolio is a concrete example of my chance to open up and reflect on myself as a teacher of literacy and a learner.
idea/affect	Through constructing a portfolio I am able to analyze my beliefs and abilities.
idea/affect	I am able to discern what I find important in the field of literacy and to define my beliefs as a teacher.

Whereas Student #3 defines her learning in terms of finding her place in a classroom community, Student #4 defines her learning in terms of self-reflection. In both cases, identity and self-reflection are represented in the portfolio by a selection of reflections. As a result, the above statements remain unconnected to other categories which include the activity assignments as documentation. What is personally meaningful remains unconnected to the subject matter. For example, student three's experiences in the urban and suburban schools are flanked by such category headings as "Knowledge of the Subject Matter," "Lesson Planning," and "Professional Knowledge." Student four's experiences in self-reflection are flanked by such headings as "Subject Knowledge," "Direct Child/Teacher Interaction," "Professional Knowledge," and "Accountability."

The contrast between displaying expertise through activity assignments and expressing one's identity as an emergent teacher of literacy through reflection entries is strong. It is as if the students were not able to connect personal experience with subject matter knowledge and expertise. This contrast between what is taught in the name of a knowledge domain and what is experienced working in a situation of teaching and learning may, in the end, prevent students from constructing a unified portfolio. It remains a vehicle of display, with the emergent voice of identity and confidence representing one component of the display.

The possibility of a portfolio text. Of the seven portfolios examined, Student #5's portfolios do appear to connect experience and subject matter. Consider her preface to the fall portfolio titled "Who am I?"

idea/affect	I am in search of myself as a future educator
	. . .
idea/affect	Over the past few years . . . I have been reading, writing, observing, teaching, and exploring the field of education.

idea/affect	I have been trying to figure out how I fit into the field of education or how the field of education fits in with me.
idea/affect	Every time I think I have figured it out I begin to question my own theory and find myself once again exploring myself and the field of education.
idea/affect	Through this questioning and exploring I find myself growing not only as an educator but as a person as well.
idea/affect	The following excerpts demonstrate this growth in a personal way.
idea/affect	Although they may seem crude, they tell the story of my adaptation of theory to my reality.
idea/affect	The theory that I speak of is the importance of a child centered curriculum.
idea/affect	My reality is working with an ESL student during reading time in a fifth grade classroom.
purpose	I will now let the story unfold.

And she does. That student #5 sees her portfolio as "crude" may refer to the fact that she includes no activity assignments as documentation. Each section of the portfolio contains one journal entry. It is difficult to know whether she simply did not try very hard, or came up with a radically different conception of the portfolio for which there was little documentation. None of her activity assignments could be carried out with the ESL student yet her work with the ESL student was the most meaningful for her. Rather than display her subject matter knowledge and expertise based on other work in the field, she chose to tell the story of her work with the ESL student. In so doing she defines the portfolio as a text in which she tells the story of her work. And she does so without documentation to tell the story. It is all based on her reflections.

The unity of Student #5's fall portfolio is not a one-time happening prompted by the special circumstances of her work with the ESL student. In her spring portfolio a similar unity is achieved, this time around an idea about teaching literacy and drawing upon the responsive teaching theme of the spring coursework. Student #5 refers to this unifying idea as the "personalization of education." The following statements are made in the opening section of her spring portfolio:

content	This Teacher Portfolio is not just the growth that has occurred this semester in regard to reading and writing.
idea/affect	Instead it is representative of my growth as a person.
idea/affect	And through creating it I have been able to look back and reflect upon my experiences.
idea/affect	These reflections have allowed me to realize where I started off in the beginning of the semester, what I discovered during the semester, and where I would like to go next.
purpose	It is with these things in mind that I have designed the format of my paper.
idea/affect	My portfolio is a compilation of writings that reflect my growth in the understanding of the need for the personalization of education.
purpose	This understanding is demonstrated through entries that tell about it generally, and pieces that show my application of it.

Thus Student #5 organizes her portfolio around an idea about teaching literacy related to her awareness of personal growth. Here, experience, subject matter knowledge, and expertise intersect, and the portfolio text is the vehicle for articulating the intersection.

PORTFOLIOS-AS-TEXTS AND INSTRUCTION IN METHODS OF LITERARY TEACHING

If the portfolio is a text students write, then they, as portfolio authors, must have an intention to develop and express their knowledge and expertise as literacy teachers. Writing the portfolio is a process of inquiry in practice. The portfolio author makes choices and learns from the consequences of those choices in practice. The text that results is shaped by the conventions and purposes of the portfolio genre, most notably documentation and explanation of one's knowledge and expertise in literacy teaching.

Unlike the other students, Student #5 seems to take responsibility as an author. As a result, she makes decisions about her portfolios based on her intentions in constructing them. In the other portfolios, students document their knowledge and expertise through the activity assignments. The issue for instruction in methods of literacy teaching is how to join authorship with documentation. In other words, the issue is how to teach conceptual and instrumental frames within a context in which these frames support students' efforts to be authors of their own professional knowledge and expertise.

Our own instruction and, as a result, the portfolios of our students reflect the dominance of the following idea: Instruction in methods of literacy teaching requires teaching basic concepts and tools of the knowledge domain of literacy teaching. But our incorporation of portfolios forces the issue of our students' autonomy. In our study of students' portfolios, we recognize the constraints on authorship imposed by the activity assignments, and look now to bring authorship to the foreground in our students' work with children. The idea of the portfolio-as-text, or, as stated initially, the portfolio-as-writing process, guides this process.

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PRESERVICE TEACHERS' EPISTEMOLOGY IN THE TEACHING OF PROBLEM READERS

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As preservice teachers enter reading education courses, they bring their conceptions and beliefs about what reading is and how it should be taught, coupled with a high optimism about their ability to teach it (Duffy, 1977). Acknowledging the influence of these factors on teacher development, a number of reading researchers have attempted to describe and evaluate the novice's thinking about the teaching of reading.

For example, Roehler, Duffy, Herrmann, Conley, and Johnson (1988) in a series of studies employing an "ordered semantic tree technique" (Naveh-Benjamin, McKeachie, Lin, & Tucker, 1986) observed that the structure of preservice teachers' knowledge of reading pedagogy gained in complexity during their preparation (see also Duffy & Roehler, 1986; Roehler, 1986). Complexity, here, was defined numerically, for example, the number of content words used in constructing a "tree," the number of chunks of related words, and so on. The novices' understandings, however, did not reflect greater coherence, defined as the interrelation of content vocabulary into conceptual networks, the identification of common attributes across categories of ideas, the integration of new information into old, and the like. In fact, the novices' semantic depictions of their knowledge became increasingly "cluttered" with declarative knowledge (p. 163), suggesting that they had gained in their ability to "say" the language of reading pedagogy, but were as yet unable to think pedagogically with it, that is, to use the concepts as functional tools in teaching.

Summarizing much of the research employing concept-mapping techniques to ascertain cognitive growth, Kagan (1990) points out two of its methodological flaws: first that a concrete drawing such as an "ordered semantic tree" is unlikely to accommodate an abstract knowledge network and second that changes in such drawings may merely reflect a growing mastery of content vocabulary, not emerging cognitive principles that cut across teaching situations. Indeed, Herrmann (1989, 1990) concluded from a series of studies exploring preservice teachers' pedagogical knowledge across several courses of a teacher education program that content knowledge tended to remain limited and course-specific.

More fundamentally, however, these and related studies have not sufficiently addressed the development of novices' pedagogical thinking, that is, their epistemology (Kagan, 1992). Although research on the development of thinking, for instance, has described important changes that occur in young adulthood, for example, women's ways of knowing (Belenky, Clinchy, Goldberger & Taruel, 1986) and developmental levels in knowledge acquisition (Kitchener & King, 1990), the significance of this work has yet to be realized in our understanding of how novices construct knowledge about teaching and in our own teacher education curriculum and instructional practices. Furthermore, the full implications of sociohistorical theory (Vygotsky, 1978; Luria, 1979; Leont'ev, 1981) for teacher education and for analyzing cognitive change in preservice teachers' pedagogical thinking are only just emerging (Ashton, 1992). As a result, processes undergirding the novice's formation and use of pedagogical concepts remain unclear, impeding the development of instructional interventions that might influence their deep-seated preexisting beliefs and conceptions of teaching.

Joining in the critical effort to understand preservice teachers' thinking and conceptual growth in reading instruction, we designed a study to examine their epistemology in relation to teaching problem readers. Viewing learning as a socially constructed process (Vygotsky, 1978), we designed an instructional setting where preservice teachers had multiple opportunities to develop their pedagogical knowledge through interaction with others. Our basic aim was to observe their selection and coordination of various sources of information to construct pedagogical knowledge of functional use to them. We asked two questions: (a) What characterizes preservice teachers' epistemology (sources of pedagogical knowledge and orientation to knowing) in relation to teaching problem readers? (b) How does their participation in a reading diagnosis course influence their epistemology?

METHOD

Participants and Setting

The participants were 122 undergraduate students (108 females, 14 males) enrolled in a compulsory reading diagnosis course over two semesters offered at two different university sites. All of the students were seeking initial certification with none having had sustained teaching experiences in classrooms. The two university sites were comparable in size (approximately 4,000 students), the types of education courses offered, length of courses (semester system), and the general professional education curriculum. They differed in that one was a public college and the other a private university. The student population of the former was comprised of white middle class, rural, nontraditional students who were returning to a university during their late 20s; the population of the latter largely consisted of white, middle- and upper-class traditional students, ranking in the upper third of their graduating high school class upon entrance to the university.

The Reading Diagnosis Course

Collaboratively, we developed a series of interrelated learning experiences lasting 15 weeks which included a core text, a set of interactive activities, and after-school tutorial sessions between students and elementary-grade children. Four key instructional approaches derived from research were interwoven into these experiences: (a) challenging problem-solving experiences that drew on prior knowledge and precipitated its examination in the light of new evidence (Feiman-Nemser & Buchanan, 1987; Labosky, 1991), (b) case studies which required analytic thinking and the articulation of pedagogical rationales (Cochran-Smith, 1989; Lortie, 1975), (c) field experiences that offered functional practice (Zeichner & Tabachnick, 1985), and (d) share sessions that fostered reflectivity in a learning climate characterized by mutuality and trust (Cohen, 1991; Connelly & Clandinin, 1990).

Student-child tutoring sessions occurred during the course with 40% of time allotted to tutoring and 60% to coursework activities. During the tutoring, the instructor observed the students' diagnostic teaching and conducted on-the-spot conferences with them about their teaching. Immediately following the tutorial sessions, students participated in 20-minute debriefing sessions in groups of four where they shared their teaching experiences and concerns. The instructor facilitated these sessions, interjecting comments which supported, clarified, and extended the students' thinking. After the debriefing sessions, the instructor engaged students in an activity which either reinforced previously learned concepts or introduced new information with follow-up, out-of-class assignments. Throughout the tutorials, much emphasis was placed on the articulation of teaching plans, enactment of them, and reflection with supporting rationales to increase the students' thoughtfulness, fluency, and clarity of understanding related to reading teaching.

In these ways, we strived to create a learning experience that was comprehensive, situated, and intensive—one that engaged the students meaningfully as they discovered what it meant to diagnostically teach problem readers. To insure fidelity to the course design, we communicated monthly, comparing our pacing, methods of presentation, and problem areas and sharing observations about students' involvement and progress.

Procedures

Upon entrance to and exit from the course, participants were requested to individually analyze a problem reader case study, responding in writing to two questions: (a) Pretend you are this child's teacher. What would you do to assist this reader? (Include what you consider your most important sources of information) and (b) What is your rationale for this approach? (Explain why you chose to do what you did.) Although the names of the problem readers in each case study were changed, both included common elements, namely the nature of the reading problem, age of the reader, and similar contextual variables, for example, instructional approach to reading.

Data Analysis

We analyzed the students' pre- and post-case responses for epistemological characteristics using a series of steps.

To reduce the considerable amount of data to a more manageable form we first applied analytic induction (Goetz & LeCompte, 1984) to the case study responses to derive categories of knowledge sources. Each researcher read and reread 20 cases randomly selected from the total of 244, focusing on the gist of each response statement, noting emergent categories, and selecting representative statements for each. Using the constant comparative method (Glaser & Strauss, 1967), we then shared our individually developed categories and negotiated to create a common set of broad categories for subsequent coding of the preservice teachers' knowledge sources.

Next a sample of 15 statements was selected from each category and content analyzed for epistemological orientation using constructs developed by Belenky et al. (1986) as potential types. Briefly these include *received knowing* where knowledge is viewed as transmitted from an authority figure, *subjective* where personal interpretation dominates knowing, *procedural* where objective facts legitimately inform knowing, and *constructed* where multiple ways of knowing are integrated. Although developed as examples of how women may construct knowledge, we reasoned that these might serve as useful analytic tools for assessing the epistemological orientations of our novice teachers if treated as fluid representations of knowledge construction. Moreover, Kitchener and King's (1990) seven levels of development in knowledge acquisition correspond with these types, namely stages 1 and 2 where knowledge is seen as absolute and decisions are justified according to an authority figure; stages 3 and 4 where knowledge is uncertain and decisions justified as to what one feels; stage 5 where knowledge is viewed from multiple perspectives with decision-making employing interpretation of evidence in light of the specific context; and stages 6 and 7 where knowledge is constructed and contextualized with decisions derived as a result of synthesizing evidence.

To content analyze the emergent categories for indicators of epistemological orientation, we employed a features matrix technique. Selecting prominent features from Belenky's descriptions of different epistemological types, we indicated their presence or absence in the statements selected from each category. Based on these results we assigned epistemological orientations to each of the categories.

Following a 2-hour training period to familiarize them with the categories, three graduate students in teacher education independently coded a sample of 10 cases, achieving 90% intercoder agreement. They then coded all pre- and post-responses by (a) numbering each statement in each case study response and (b) coding it using the previously negotiated categories.

Finally we applied descriptive statistic techniques to the pre- and post-case study frequencies within and across categories, computing the percentages of statements in the different categories before and after the course.

RESULTS

Analysis of 6,280 statements from 244 case study responses, 2,907 prior to course experiences and 3,373 following, revealed nine important sources of pedagogical knowledge influential in the thinking of these preservice teachers and indicative of three epistemological orientations: received, subjective and procedural ways of knowing. The first set of results describes the knowledge sources within each of these orientations. The second set reports variations in the preservice teachers' epistemology prior to and following their learning experiences in the course.

Characteristics of the Preservice Teachers' Epistemology

Forms of Received Knowing

Nonreferenced rationales. Lacking connection to any specific instructional approach or technique, nonreferenced rationales were sweeping generalizations seemingly "thrown into" an explanation of how to assist a problem reader. "Whole language is a good idea" and "It's important to have positive self-esteem" typify such statements. Unrelated to an overall action plan or the specific needs of the reader, these statements tended to reflect global ideas which may have been gleaned from previous classes and experiences.

As knowledge sources, these resemble what Belenky et al. (1986) term received knowing, consisting largely of the repetition of words used by authorities. More often such statements resembled value judgments without much of a rationale, inserted indiscriminately throughout a response.

External agents. In some instances, the preservice teachers would rely on others' observations and actions as their source of knowing. For instance, they might suggest that the school psychologist evaluate the problem reader, the reading specialist diagnose the problem reader or the parent read to the child more often. In short, someone other than themselves was viewed as having greater knowledge.

Like nonreferenced rationales, these statements reflect received knowing in that our preservice teachers may have heard about such procedures in previous classes or read about them in a textbook; however, they did not themselves construct a plan nor were they instrumental in enacting one. Rather they relied on experts to solve the problem.

Forms of Subjective Knowing

Assumptions about the learner. Relying on their overall feelings about the case, the preservice teachers responded with generalized reactions based on their assumptions about how the learner might be feeling. For example, students remarked, "I would try to understand what Jamie (case) was feeling at the time" and "She needs someone to build her self-confidence." Here, pedagogical decisions rested not on facts about the learner as presented in the case study, but rather on the preservice teachers' overall feelings generated by the case.

Assumption-making along these lines reveals a subjective stance to thinking. One's own recollected feeling states are projected onto the learner, serving as a source of knowledge for guiding action, and instructional decisions are justified on a personal basis, for example, "I choose the approach I do mainly because I feel Jamie needs encouragement."

Intuition. Intuition also served as a source of knowing whether a diagnostic plan would work or not. Comments such as, "When something is right, you feel it is right," "If my hunch is right, it's his (case) perception of reading," and "What I believe is important is that a teacher use what s/he feels comfortable with" illustrate reliance on what the self feels. In short, subjective reasons supported rationales for instructional choices.

The preservice teachers' use of intuition to inform their rationales indicates subjective thinking. For subjective knowers, what is "right" is an intuitive reaction—something felt rather than constructed. What feels comfortable personally is the important criterion for knowing.

Past experience. Most of the preservice teachers had previously engaged in both field work and micro-teaching, and therefore, based some of their decision-making on their previous experiences as classroom observers or the teacher of a small group of children. For example, they might say, "I taught a class once where this happened" or "All of the approaches I have chosen seem to work with others I have taught."

Relying on experience to make decisions is also characteristic of subjective knowing. In connecting their past experiences to the case study, the students demonstrated their alertness to the value of their own experience for informing new problem situations.

Generic actions. At times, the preservice teachers chose to execute a plan that would provide them with more information about the reader or serve as a remedy for the problem. In these statements, actions of a generic nature were often suggested. Assigning reading at home, praising the reader, finding books of interest to the child, and reading stories together are representative of generic actions mentioned by these students.

The use of generic actions in responding to a problem situation is yet another illustration of subjective understanding, since the actions are rooted in what the preservice teachers themselves would do so as to feel comfortable in the same situation. As one wrote, "Jamie (case) must feel comfortable before (reading) and above all else." Statements such as this reflect an attempt to put oneself into the student's feelings which is a subjective way to know.

Forms of Procedural Knowing

Facts about the learner. Facts about the learner stated in the case study were also used by the students to support and enhance their thinking. For instance, one preservice teacher says, "I chose a magazine article (to assess reading) because Jamie said she reads these sometimes," and another remarks, "Her (Jamie's) family background shows signs of dependence; they seemed to 'baby' her."

The use of facts about the learner is indicative of procedural thinking. Here objective data play a larger role in knowing how, and the individual willingly entertains information from several sources (other than the self) in making decisions.

Context-specific actions. Recommending a procedure or strategy (e.g., the DR-TA or a cloze procedure) provided another way of knowing in relation to problem readers. In their explanations, the preservice teachers might name an instructional technique and elaborate on it at length. One student, for example, provided a detailed description of story mapping as a means to improve the reader's story sense, including a number of step-by-step directions.

Representative of procedural thinking, the preservice teachers' suggestions of specific teaching procedures and related steps indicate early attempts to separate themselves from the person in the case. They attempted to choose techniques and strategies responsive to the reader's problem and sensitive to contextual factors, for example, classroom constraints.

Coursework. Preservice teachers often credited a particular course as a source of knowing. For example, they might say, "I would do (a technique) because we learned about it in Language Arts," or "I feel most of my ideas stem from ED—class." In other instances they might mention a specific textbook section as an important reference source.

Statements along these lines also suggest procedural knowing, where objective data are used to interpret and provide a solution to the case study. Here, the students did more than simply repeat what they had been told, recommending techniques whether they fit the situation or not. Rather, they used objective data from the case study to make hypotheses and then drew from coursework and texts possible solutions in the form of procedures. Similar to "separate knowers" (Belenky, et al., 1986), they actually separated themselves from the case, per se, focusing more so on the reading problem.

Influence of the Reading Diagnosis Course

Table 1 provides a comparison of the derived categories characterizing the students' epistemology before and after their learning experiences in the reading diagnosis course. These results suggest that the course experiences may have impacted the relationships between different sources of pedagogical knowledge, urging the students toward greater objectivity in their pedagogical thinking. Prior to the course, for example, the most prevalent sources of knowing were generic actions (37.5%) and nonreferenced rationales (17.6%) followed by assumptions made about the learner (13.6%). When combined with intuition, which also played a sizeable role in deciding what to do (7.4%), it appears our preservice teachers assumed a predominantly subjective orientation in their pedagogical thinking.

After their 15-week experience, however, they seemed to shift toward a more procedural stance, boosted by the greater presence of context-specific actions (30.4%) (specific teaching procedures) in their pedagogical thinking. They also used more facts (8.8%) and specific textbook and course references (14.6%) when elaborating their decisions, indicating increased use of procedural knowing. The preservice teachers decreased their reliance on nonreferenced rationales (10.9%), representing received knowing, and intuition (3.0%) as well as generic actions (14.4%), representing an internal, subjective orientation. In sum, their post-course responses were more balanced between subjective and procedural orientations.

DISCUSSION

Several researchers have called for more emphasis on procedural knowledge in teacher preparation (e.g., Lidstone & Hollingsworth, 1990). According to Kagan (1992),

Table 1

Percent of Students' Statements within Categories by Epistemological Orientation Before and After Course Experiences

Category	Pre-Response		Post-Response	
	%	*N*	%	*N*
Received				
Nonreferenced Rationales	17.6	511	10.9	368
External Agents	4.7	136	1.6	54
(Subtotal)	(22.3)	(647)	(12.5)	(422)
Subjective				
Assumptions about Learner	13.6	394	14.8	499
Intuition	7.4	213	3.0	104
Experience	2.1	62	1.2	42
Generic Action	37.5	1086	14.4	486
(Subtotal)	(60.6)	(1755)	(33.4)	(1131)
Procedural				
Facts about Learner	5.8	169	8.8	296
Context-specific Action	9.9	289	30.4	1024
Course Work	1.2	36	14.6	402
(Subtotal)	(16.9)	(494)	(53.8)	(1812)
Total	99.8	2896	99.7	3365

in fact, this is precisely what needs to occur in education coursework because "procedural routines appear to be the sine qua non of classroom teaching" (p. 162). Our study lends support to these proposals. Examining preservice teachers' pedagogical thinking about problem readers in the context of a specially designed 15-week reading diagnosis course, our results reveal not only their epistemological characteristics, but also the potential of certain learning experiences in a reading diagnosis course for developing their procedural thinking.

At course entry, for example, the preservice teachers' thinking seemed dominated by subjective knowing where the self is the primary reference for pedagogical decision-making. Most apparent in their reliance on generic actions, the students' pedagogical thinking appeared driven by what they themselves might want if in the same situation. Moreover, their reasoning about what to do appeared particularly global and undifferentiated, falling more into the realm of folk knowledge about reading pedagogy than professional knowledge. This is somewhat alarming, since the reading diagnosis course was not their first course in reading theory and instruction, learning theory or methods. Nor was it their first experience with real teaching, since they had had previous field work which offered opportunities to apply pedagogical concepts relevant to reading while instructing children.

After their course experiences, however, our students demonstrated greater use of procedural knowledge, acknowledging previous and current coursework in their construction of what to do and citing a variety of appropriate teaching procedures, often in great detail. Their reasoning about what to do was based not only on a subjective understanding of the situation, but also on objective facts from the case interwoven with procedural know-how. In short, it appears that content-specific procedural knowledge is what the preservice teachers gained from the reading diagnosis course.

We believe that the thoughtful combination of course format (class sessions + tutorials) and interactive activities based on teacher education curriculum research were instrumental in precipitating this shift from pedagogical thinking dominated by subjective knowing toward a more balanced use of procedural and subjective knowing. Experiences rich in opportunity to actively manipulate pedagogical concepts verbally, to immediately put them to functional use, and to explain one's pedagogical choices to others appeared to stretch our students' thinking toward a greater integration of epistemological orientations. As a result, their verbal interactions may have become internalized into justifications for actions. This view of learning is consistent with the sociocognitive view where knowledge is constructed through joint participation and social interaction (Vygotsky, 1978). Although certainly conjecture on our part, the instructional design of the course (its setting and tasks) may have provided a supportive learning context which allowed these preservice teachers to extend their range of thinking, to develop teaching skill, and to successfully accomplish instructional routines, that is, to do collaboratively that which as yet could not be done alone (Rogoff, 1990).

Given the limited scope and design of our study, however, we can only speculate that our students' participation in the specially designed interactive activities was influential in advancing their pedagogical thinking Further research regarding the development of teachers' epistemology as well as critical instructional tasks is needed if we are to advance such thinking through our teacher education practices.

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A CASE STUDY OF A PRESERVICE SECONDARY SOCIAL STUDIES TEACHER'S BELIEFS AND PRACTICES ABOUT CONTENT-AREA READING

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In the past decade, educational research (Clark & Peterson, 1986) has recognized the potential influence of teachers' beliefs about teaching and learning on their decision-making and instruction. In reading, the focus has been primarily on identifying teachers' beliefs (Kinzer, 1988) and examining their consistency with actual practice (Wilson, Konopak, & Readence, 1992). However, little research has addressed the simultaneous development of these belief systems and classroom planning and instruction in preservice teachers. Using case study methodology, the present study followed a social studies teacher through the last two semesters of coursework and practice teaching in a teacher preparation program. The primary objective was to examine the dynamic relationship between the teacher's beliefs about the reading process, his instructional decision-making, and his actual practice across different teaching/learning contexts.

Reading research has addressed the influence of teachers' beliefs on their instructional decisions and practices, primarily focusing on reading acquisition at the elementary level. Results have shown that elementary teachers hold beliefs about the reading process (Harste & Burke, 1977) and attempt to implement beliefs-based instruction (Richardson, Anders, Tidwell, & Lloyd, 1991). For example, Richardson et al. found that upper elementary teachers who believed reading involved learning a set of skills regularly used basal texts and focused on word-attack techniques. However, teachers' decisions and lesson plans (Kinzer, 1988) and actual classroom teaching (Mitchell, Konopak, & Readence, 1991) may be constrained by external factors. For example, Mitchell et al. noted that lower elementary teachers who espoused a belief in whole-language instruction were required to focus on separate reading skills in order to prepare their students for state-mandated standardized tests.

Recent studies have extended this research to the secondary level. To identify teachers' beliefs about the reading process, Readence, Konopak, and Wilson (1990) used a series of paper-and-pencil instruments: (a) two sets of belief statements on how reading takes place and develops, and (b) three sets of lesson plans on decoding, vocabulary, and comprehension instruction. Adapted from Leu and Kinzer's (1987) instruments for elementary teachers, each set incorporated three models of the reading process—text-based (e.g., Gough, 1985), reader-based (e.g., Goodman, 1985), and interactive (e.g., Rumelhart, 1985). Rather than definitive categories, these explanations represent different points on a continuum. That is, text-based assumed that meaning resides in the text and that instruction focuses on teacher-directed lessons. In contrast, reader-based assumed that meaning resides in the reader and that instruction focuses on student-centered lessons. Related to both explanations, interactive assumed that meaning resides in the text and the reader and that instruction integrates teacher- and student-directed lessons.

In comparing preservice and inservice teachers, these researchers found that both groups favored a reader-based explanation of the reading process, although inservice teachers were more consistent than preservice teachers in choosing corresponding reader-based lesson plans. However, Wilson et al, (1992), in observing lesson units, found that inservice teachers generally did not implement reader-based beliefs in their classroom teaching; rather, they used more text-based or interactive approaches for instruction. These researchers concluded that (a) given paper-and-pencil tasks, inservice teachers were able to see the relationship between theory and its application in lesson plans (Readence et al., 1990), but that (b) given actual teaching situations, these teachers were also influenced by external constraints (Wilson et al., 1992).

Research specifically addressing preservice secondary teachers and their developing beliefs and practice regarding content-area reading has been limited. In their work, O'Brien and Stewart (1990) found that preservice teachers in different disciplines were resistant to content-area reading instruction prior to student teaching. Based on journal writings and interviews during methods courses, the researchers noted that these students held misconceptions about content reading, as well as deeply rooted beliefs about discipline-specific pedagogy. They concluded that teacher educators need to address the social and political complexities of the content classroom in an attempt to produce real changes in the preservice program.

Bean and Zulich (1992) examined preservice teachers on their understanding and use of content-area reading methods during student teaching. Using student/professor dialogue journals, they studied the relationship between their students' beliefs, instructional practices, and personal reflections. Focusing on *text-bound* content areas such as English and social studies, they found differences according to the student's discipline, field-based experiences, and personal biography. In particular, they noted the crucial relationship between the student and cooperating teacher that can override other influencing factors, a finding that supports earlier research (Cherland, 1989). However, these researchers did not observe in the students' classrooms or interview other participants in the field experience in an attempt to obtain a broader perspective.

The present study attempted to extend these findings by following a secondary social studies teacher through preservice university-based coursework and student teaching. Using a variety of data sources, the researchers hoped to trace the development of his beliefs about content-area reading and the extent to which he implemented these beliefs in the classroom, focusing on factors that influenced his thoughts and actions.

METHOD

Participant and Setting

The teacher of interest was David, a 21-year-old white male in an undergraduate secondary education program at a major southeastern university. David was purposively asked to participate in this study because he (a) was enrolled in content-area reading and social studies methods courses taught by one of the researchers, (b) was supervised in social studies student teaching by the same researcher, and (c) was willing to participate, thus allowing the case study to extend over two semesters.

Materials

Several primary sources were used for data collection. These included: (a) Readence et al.'s (1990) written instruments in order to tap beliefs and instructional choices about content-area reading; (b) journal writings during university and field-based experiences in order to examine personal reflections about teaching and learning; (c) documents such as lesson plans, text materials, instructional activities, and assessment measures in order to examine instructional choices; (d) classroom observations and field notes in order to study actual practice; and (e) informal interviews in order to examine and clarify particular content-area reading issues.

Procedure

The study was conducted over two consecutive semesters during one academic year. During the first semester, David was concurrently enrolled in content-area reading and methods courses in secondary social studies that incorporated a process-centered approach to teaching and learning. Readings and assignments in both classes supported this perspective, focusing on reflective practice (e.g., journal writing) and collaboration (e.g, small-group interactions). Both courses contained field-based components: the content-area reading course involved classroom observations; the social studies course also contained a team-taught 5-day unit. Throughout the semester, the researcher collected written assignments and journal entries from all students. In addition, she collected unit plans for the field experience teaching, as well as evaluative comments from the supervising classroom teachers. At the end of the semester, the beliefs instruments were administered to all students in the reading course.

During the second semester, David completed his student-teaching assignment at a local, semi-rural high school. This school enrolled Grades 10 through 12, with heterogeneous ability, race, and socioeconomic student population. David's assignment was six social studies courses, including three preparations (American History, World History, Government). His cooperating teacher, Helen Willis, was a white female with 19 years' teaching experience at the secondary level and with these subject areas; in addition, she was considered an "excellent" teacher by her school principal, peers, and students. During this semester, the researcher observed David weekly in his six classes and asked that he continue his journal writing. In addition, she took field notes, collected teaching and learning materials, and interviewed David, the cooperating teacher, and randomly selected students. At the end of the semester, the beliefs instruments were administered to Helen and David which was his second time to complete the instrument.

Analysis

First, the written instruments were scored to classify David's beliefs as representative of a particular explanation of the reading process, based on his selection of statements and lesson plans. Then, the multiple data sources were analyzed using constant comparative analysis (Miles and Huberman, 1984). In particular, the researchers read and reread the data, searching for consistency among beliefs, lesson plans, teaching and learning materials, class interactions, and interview responses. Data sources were triangulated to validate an occurrence and to control for biases. Final interpretation was achieved following searches for meaningful patterns involving the multiple perspectives of the research team members.

RESULTS

University Coursework

Beliefs instruments. For the beliefs statements, David chose predominantly interactive and reader-based statements. Regarding his beliefs about how reading takes place, his selections emphasized the reader's interaction with the text by employing a variety of strategies and developing all components of the reading process. His choices also focused on the importance of expectations as well as background knowledge and experiences when interpreting text.

On beliefs about how reading develops, David chose reader-based statements that concentrated on a whole-language approach to instruction and that considered the students' individual and differing abilities. In particular, he selected statements that suggested the need to provide and encourage multiple opportunities for reading. His selections also stressed the interrelationships of the four language processes (reading, writing, speaking, listening).

For the three lesson plans, he chose a different theoretical explanation for each plan (decoding: text-based; vocabulary: interactive; comprehension: reader-based). The decoding lesson plan focused on sounding out words, using morphemic analysis, context clues, and the dictionary. The vocabulary lesson plan concentrated on pronunciation, using context clues, prediction, students' prior experiences, and writing as well as teacher modeling. The comprehension lesson stressed the use of the students' prior experiences and background knowledge as well as the teacher's role in guiding and modeling.

Coursework and field experiences. In both methods courses, David's writings stressed two major points: motivating and guiding student learning. For example, in a journal entry he wrote:

> Before a reading assignment, the teacher needs to motivate the student to want to read. The teacher can create activities related to the materials that will interest the students. The student needs to be shown that reading is fun and necessary. Don't tell the students to read the text and never use it.

In the same entry David focused on the need for teachers to show them how to "get the meaning from the text, look for the key points of a passage, and apply concepts that they learned from their reading. . . . It will give them the feeling of success . . . encouraging the entire process to repeat again and again." Subsequently, David suggested that a variety of strategies (graphic organizers, webs) be employed to motivate and guide students through all phases of the reading process.

According to his beliefs selections, writings, and instructional plans, he planned to motivate his students by discussing their prior knowledge and background experiences. For example, during the social studies field experience, he introduced his lesson on the American Revolution by focusing on the students' prior knowledge of taxation and how they had been affected by taxes. However, his instruction tended to focus on prior knowledge and background experiences only in his introductions. In the field experience lesson, the teacher criticized his failure to connect the students' prior knowledge with subsequent information; she suggested that he provide the students with "clues" instead of simply providing the answers.

As indicated by his beliefs statements, David also stressed the need to provide the students with many opportunities for reading besides the textbook. Again, this was supported in his writings and instructional plans. For example, in a journal entry he stressed the use of other sources (primary documents, literature). He wrote: "The textbook should not become the curriculum." Similarly, in his unit plan, he included outside sources (newspapers, magazines); in this unit, the textbook seemed to serve as a resource for learning rather than the source of learning.

His writings and instructional plans also appeared to be consistent with his belief regarding the interrelationship of the four language processes. For example, according to a journal entry, he hoped to employ reflective journals that would concentrate on the students' meta-cognitive strategies. This belief was also reflected in his instructional planning. For example, when teaching his lesson on the Boston Massacre, cartoons were constructed and orally presented by the students. Furthermore, his unit plan included opportunities for role-playing, cooperative learning activities, and student presentations.

Student Teaching

Beliefs instruments. During the second semester, David experienced changes in his beliefs about reading, but retained his previous instructional decisions on the three lesson plans of the beliefs instrument. Regarding how one reads, David became more reader-based in his selections. Although he chose statements regarding the interaction between reader and text and the use of a variety of strategies for reading, this time his selections stressed the reader's use of background experiences and prior knowledge and the teacher's encouragement of different interpretations of the text material.

David's beliefs about how reading develops shifted from a strict reader-based to an interactive emphasis through the incorporation of text-based emphases. Eliminating his previous focus on multiple opportunities for reading, his selections emphasized differing student abilities and teaching/learning strategies. His choices also indicated the belief that adult role models are needed for students. Consistent with the previous semester, he stressed the belief that the four language processes are interrelated.

Practice teaching. During the previous semester, David focused on the need to motivate and guide students' reading and learning. While student teaching, he continued to see the importance of motivating students to learn. He stated:

> I see from both sides of the desk—what teachers are dealing with like motivation—I moved away from learning facts to making it relevant. . . . The first thing is it should be fun. It doesn't have to be names and dates. They do not care about that mumbo-jumbo. They want to know how it applies to them. It will make it interesting to them and easier on the teacher.

Subsequently, David drew upon their background experiences and prior knowledge. In particular, his 12th-grade government class had not been participating in the assignments and discussions. Once David began to connect certain concepts to things seen in popular television shows and movies, the students became more interested. One student commented that she enjoyed the class and was reading the material and completing the assignments because "he makes things more interesting . . . by talking about things we care about."

Although he continued to stress motivation, his instruction became more text-based during the semester. Counter to his beliefs and instructional decisions, David's lessons followed a consistent format: (a) return papers and go over assignments, (b) present textbook lecture, writing key points on the board, and (c) show film/video or complete a worksheet. Usually as a review for the test, David would employ vocabulary games or a form of the game show Jeopardy. When asked about this format, particularly his lectures, he explained that "the students are complaining that they are having trouble taking notes because I don't go by the book. From now on, I will try to stay with the book." When other formats were suggested he frequently responded: "I asked Ms. Willis about that and she really likes it to be done this way."

Consequently, by using this format, David failed to incorporate the pre-, during, and post-reading strategies for guiding his students described during the previous semester. Although the other members of his student-teacher group frequently discussed the various reading/learning strategies being used to meet the needs of the differing abilities of their students, David frequently commented, "Those activities take up too much time." He explained that he and Ms. Willis did not have time to cover the material in the text or to discuss new vocabulary words. Instead, the students were told to "look them up in the book." He described the strategies he was using as pop quizzes, worksheets, vocabulary games, and crossword puzzles.

According to David, the strategies that he employed "did not have the effect I thought, they still wouldn't read." He found this problem to be greater in certain classes. He explained:

> A lot of times with the 10th-graders, if you started a discussion of the reading from the night before, it would flop. So, you just have to make them read it aloud. Then the juniors had already read and you could discuss it. The seniors could be given a few minutes at the beginning of class.

It is interesting to note that although Helen was primarily interactive in her beliefs and instructional decisions about reading as indicated by her responses on the beliefs instruments, her primary reading strategy, read aloud as used by David, was text-based in scope.

David's lesson format also conflicted with his belief that concentrated on the interrelationship of the four language processes. For example, the students' writing activities were mainly worksheets. After giving essay questions on his tests, David said that he was "gung ho until the 150th one . . . the sheer volume was too much." As a result, although he said that "we need to teach them to write and think critically," David began to model Helen by giving assignments and tests which focused on literal-level questions. This was also counter to his belief that students should have different interpretations of the text material, instead focusing on the text and teacher's interpretation of it.

DISCUSSION

The purpose of this case study was to examine the development and evolution of the beliefs and practices of a secondary social studies teacher as he progressed through university-based methods instruction and student teaching. By its nature, case study focuses on a *bounded* system that is complex and dynamic. Its purpose is not to generalize across systems but to particularize a unique system (Stake, 1988). By using this methodology in the present study, the researchers hoped to illuminate in more depth the evolving relationship between a teacher's beliefs and practices than previous investigations using only surveys and/or brief field observations have been able to reveal.

The participant of this case study, David, espoused beliefs and decisions that centered mainly around reader-based or interactive approaches to instruction during his university-based methods course. By and large in his accompanying field experience, he attempted to use instructional practices that were consistent with those beliefs, as exemplified by the use of motivation and prior knowledge in his American Revolution lesson and his use of journals and other language processes in his Boston Massacre lesson. In student teaching, however, even though David's beliefs stayed essentially the same, his practices tended to become more closely tied to a text-based philosophy of instruction. This inconsistency was manifested in more use of the textbook, lecture, and worksheets, and less use of the instructional strategies for guiding student learning described in his methods course. It may be that David's practices changed as the school-based cooperating teachers became more influential; that is, Helen was known as an "excellent" teacher whom David wished to emulate. On the other hand, the other social studies student teacher used more facilitative strategies, perhaps because their cooperating teachers were more flexible in allowing innovative practices. Although this finding corroborates previous research (Bean & Zulich, 1992; Cherland, 1989), it also leads to speculation as to why this chasm between espoused beliefs and actual teaching practices occurs.

Alvermann and Moore (1991) hypothesized that instructional practices and routines used in secondary classrooms are strongly influenced by demands placed on teachers both from within and outside the classroom. Teachers typically teach about five classes per day, with 25–30 students of varying abilities per class, that may involve two to three separate preparations. The classrooms themselves are typically confined by four walls and rows of student desks. Alvermann and Moore suggested that practices which encourage order through teacher control, expedite accountability of student learning, and can be performed with limited resources would dominate typical secondary settings. Thus, traditional practices which are routinized and rely on textbooks and highly controlled presentations can be expected to prevail. On the other hand, practices which encourage student participation, open-ended responses, and cooperative learning are unpredictable, lessen teacher control, and pose management problems. Preservice teachers will quickly adapt to their environment and employ those practices which will make them successful in that setting. Thus, as student teaching progressed, David's instruction became more traditional. He began to rely more on the textbook, lecture, worksheets, and oral reading, practices which Alvermann and Moore hypothesized would prevail in most secondary classrooms.

Future research needs to investigate strategies which will help both preservice and inservice teachers adapt their classrooms so they can be consistent with their espoused beliefs about reading and learning and also deal with the demands placed upon them in typical secondary classrooms. This may also entail a reexamination of our teacher education programs in an attempt to mesh theories of teaching and learning with the realities of the classroom, as suggested by O'Brien and Stewart (1990).

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THE INFLUENCE OF CONTEXT, COMMUNITY, AND CULTURE: CONTRASTING CASES OF TEACHER KNOWLEDGE DEVELOPMENT

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> [L]earning to teach is not a mere matter of applying decontextualized skills or of mirroring predetermined images; it is a time when one's past, present, and future are set in dynamic tension. Learning to teach—like teaching itself—is always the process of becoming: a time of formation and transformation, of scrutiny into what one is doing, and who one can become. (Britzman, 1991, p. 8)

Historically, educational researchers have described the process of learning to teach in terms of beginning teachers' observable behaviors or the skills needed for effective teaching (Carter, 1990). Recent investigations, however, have explored novice teachers' beliefs about teaching, their developing professional orientations, and their developing knowledge for teaching from an interpretive, critical stance (Britzman, 1991; Ritchie & Wilson, 1993). Detailed case analyses and biographies which highlight the voices of teacher candidates, student teachers, and first-year teachers comprise much of the current body of research on learning to teach (e.g., Bullough, 1989; Bullough, Knowles, & Crowe, 1992; Grossman, 1990). Much of this research describes the experience of learning to teach as "a social process of negotiation rather than an individual problem of behavior," a process which is often situated in "a largely inherited and constraining context" (Britzman, 1991, pp. 8, 14).

Although Feiman-Nemser (1983) points to four somewhat chronological phases which constitute the process of becoming a teacher, this article concerns two early phases: "pretraining" (including educational biography and prior beliefs) and "preservice" (including professional coursework and student teaching). We know that teacher candidates have extensive informal preparation for teaching long before they enter teacher education programs (Lortie, 1975). Individuals' personal beliefs and past histories in school affect both their conceptions of the role of the teacher (Britzman, 1986) and their professional orientations (Nespor, 1987; Zancanella, 1991). In addition, we have learned that professional teacher education coursework has the potential to provide an occasion for prospective teachers to make the transition to pedagogical thinking, especially when preconceptions about teaching, learning, and subject matter are examined during these courses (Feiman-Nemser & Buchmann, 1985; Grossman, 1991). Student teaching has been cited as perhaps the most powerful aspect of preservice education; however, student teachers are "marginally situated in two worlds," part student and part teacher (Britzman, 1991, p. 13). As they struggle for their own individual voices, student teachers must often negotiate among many contradictory realities and conflicting discourses of teaching and schooling.

The project reported here (drawn from a larger qualitative study) focused on the developing attitudes and perspectives of the participants as they moved recursively and reflectively from English major to secondary English teacher. From January 1990 through May 1991, I conducted qualitative case studies of five teacher candidates as they completed the final phases of their teacher education program in a large midwestern university; three of the participants were subsequently followed into their first year of teaching secondary English (Fox, 1991).

Research questions included: (a) How do the participants define "English" as a discipline or subject for study in school, and how do these definitions evolve over the course of the investigation? (b) How do the participants acquire knowledge about teaching, and what are their reported sources of knowledge for teaching? (c) How successful are the participants in enacting their definitions of English in the classroom? This article focuses on two student teachers who for different, somewhat paradoxical reasons, experienced discord in their induction into teaching. The stories of Rob and Daniel (pseudonyms) represent and underscore the importance of context, community, and culture in learning to teach.

METHOD

Data-gathering methods included: (a) eight in-depth, semi-structured interviews (Spradley, 1979) with each participant at various developmental points before, during and after the student-teaching experience; (b) participant-observation in each of 11 weekly student-teaching seminars (about 90 to 120 minutes each) where the participants discussed their responses to case studies of expert and novice English teachers, their observations of experienced teachers, and their own initial teaching experiences; (c) nonparticipant observation in the participants' classrooms during student teaching; (d) the collection of written artifacts (e.g., participants' personal case studies, journals, lesson plans, class materials, and so on); and (e) semi-structured interviews with cooperating teachers, principals, and students (conducted as sources of triangulation). Formal and informal "member checks" (Lincoln & Guba, 1985) were used during the interviews and following the observations.

The interviews and the weekly student-teaching seminar meetings were audiotaped and transcribed verbatim. Classroom observations (often audiotaped) were recorded by hand. All of the information concerning each participant was independently "consolidated, reduced, and interpreted" (Merriam, 1988) and brought together in a case-study data base or case record (Yin, 1984). Analysis was based on the constant comparative method (Glaser & Strauss, 1967). When certain patterns or regularities became apparent, categories emerged; the labels for the categories became empirical assertions (Erickson, 1986) such as "Daniel sees the connection between literature and life as the main purpose for English." Categories which emerged from the initial interviews were continually compared with categories from the observations of both the student-teaching seminar and the student teachers' classrooms.

Once an analysis of each individual case record was completed, a final case study for each participant was written. An identification of various recurring themes within each case provided a means for cross-case analysis, and a comparative study of individual cases was written.

SUMMARIES OF THE CASE STUDIES

Rob: Transmission of Knowledge Versus Student Engagement

Two of Rob's most striking personal features were his intense energy and his sensitivity. A 14-year involvement with martial arts led Rob to a black belt in taekwondo and some experience in teaching. He was clearly the most talkative member of the student-teaching seminar group, often initiating discussions by reading from his journal or by asking a question. His sensitivity and caring became evident quickly: "I want to work with adolescents and their problems—drugs and the issues that surround that, students who think about suicide." Rob's interest in students seemed to thrive "outside" his classroom door. However seriously Rob might have taken the culture of the adolescent community, his students did not respond well to his literature lessons.

As a student teacher, Rob was assigned to a junior-high school of 1,000 students in a midwestern university town of 63,000 residents. Most of the 10 English teachers in this two-story, red-brick building did not have permanent room assignments. As Rob reported, the school itself was severely overcrowded: "I have students up on the window sills because we don't have enough desks, students on the floors, on tables—there's just not enough room."

In this context, Rob taught three periods of "regular" and two periods of "honors" ninth-grade English, where the class size ranged from 22 to 30. About 20% of the students in the school were ethnic minorities, primarily African-American or Asian-American students. The curriculum for Rob's courses was generally prescribed by the school district: a unit on *Of Mice and Men*, a writing unit on the five-paragraph essay, a grammar review in preparation for the state-mandated standardized achievement tests, and a unit on a Charles Dickens novel. Rob chose *Hard Times* rather than the abridged version of *Great Expectations* which appeared in the literature anthology. During his student-teaching experience, Rob's cooperating teacher gave him full responsibility for all five classes for approximately 8 weeks.

Rob derived his definition of English primarily from his observations of his college English professors. He valued the formal analysis of what he called "classical literature" and viewed literature as history, emphasizing what he called "material" on authors' lives. Rob felt that his college Egnlish classes offered brief opportunities for his own personal response to literature but ultimately taught him the importance of analyzing literature "correctly": "It's always helpful when you've got some professor giving you guidance through [the novel]: *this* is what you should be looking for, *this* is a key point." Rob's definition of English was reinforced by his cooperating teacher who often conducted dramatic, teacher-centered class presentations.

As Rob reflected on his experiences, he entitled his personal case study, "I Had a Hard Time Teaching *Hard Times* So Please Don't Give Me a Hard Time." He assumed his ninth-grade students would be as motivated about the book as he was but soon discovered, "I was teaching the novel from hell!" His transmission model of teaching literature (quizzing students about plot and "rushing" to cover the chapters) failed to engage his students, but he persisted because "it's one of my favorite books." Despite some experimentation with collaborative learning strategies (a suggestion from his peers), Rob remained faithful to his initial approach, reflecting that he believed the problems stemmed from his own "presentation" of the book. Rob left student teaching somewhat frustrated, convinced that his problems were merely "technical." Because he did not receive the positive response which he expected from the adolescent community, Rob's enactment of his definition of English in the classroom was in a sense *blocked.*

Daniel: Connecting Literature to Students' Lives

Daniel loved jazz and the blues and rock and roll. His sense of idealistic optimism and individuality seemed to characterize his personality. He believed in recognizing and celebrating the diversity among his students. Daniel connected literature to his own life, reporting interest in authors Tom Wolfe, Hunter S. Thompson, James Baldwin, Gordon Parks, Langston Hughes, and "a couple of political newspapers." He even "lived" the literature he read, for he traveled in true "Kerouac" fashion across country one summer. Good teachers, Daniel believed, are "excited about what they're doing" and "they transfer that over to students and help them see the connections between English—good literature—and their lives."

As a student teacher, Daniel was assigned to the same local junior-high school as Rob. Since Daniel's cooperating teacher moved to a new room only once each day, he felt he had some control over the classroom's physical environment. Often, he posted student writing on bulletin boards or shared his own writing by displaying his poetry on the chalkboard. When Daniel taught, he moved about the room freely, pausing occasionally to sit on a stool which was situated in the middle of the room. Working with his cooperating teacher as an instructional aide for 6 weeks prior to student teaching, Daniel continued to observe her classroom for 8 additional weeks, assuming responsibility for five eighth-grade classes for only 2 weeks. This relegation to the role of observer frustrated him greatly.

The five classes of eighth-grade English ranged in size from 22 to 28. Even though the curriculum for the courses was generally prescribed by the school district, Daniel was allowed to develop a 2-week unit on poetry. He created a "poetry packet" containing poems and activities which he thought eighth graders would enjoy, but felt constrained by his cooperating teacher's guidance: "She reviewed everything with me on a daily basis and recommended things to me—and pulled things back. . . . I didn't feel I had much freedom in the way I could teach."

Daniel's definition of English centered on the connections between literature and life. He felt compelled to help students enjoy literature "for once in their lives," and he believed that students should influence and shape the curriculum for any course. His experience with student teaching seemed to complicate his definition of English, and when his definition clashed with his cooperating teacher's ideas and instructional priorities, he became discouraged. Daniel was troubled by what he called her "trivial pursuit, jeopardy, spit-out-the-answer" approach which seemed to be endorsed by the "system" and its state-mandated, standardized achievement tests. He empathized with his cooperating teacher ("I think some days my teacher doesn't know *what* her purpose is, and she's been teaching for 20 years") and lamented her struggle with "what she *has* to do" and "what she *would like* to do."

During class discussions, Daniel was eager to tell stories of his own life and encouraged students to do the same. "I want kids to see why English is important to their everyday lives—how picking up a good book can really *change* the way they think." Recalling his own school experiences, Daniel worried, "[Most teachers] don't make English real to kids. English is never more than a class. It's not connected to their lives. And if students can see that it is, they'll enjoy it much more and know that it's important and meaningful to them." When students connected their personal experiences to their reading, he felt pleased:

> They really can see a lot of themselves or people they know in these poems. Kids were pretty open in discussing their problems in small groups. . . . Kids who normally sat in the outer corners of the room were actually reading the poems and expressing themselves in their responses.

Despite this brief period of success, Daniel left student teaching feeling disappointed, determined to rediscover the reasons he "enjoyed English so much" and find those "connections" between literature [or English] and life which he felt were lacking in his cooperating teacher's classroom. Daniel's enactment of his definition of English was also *blocked.*

DISCUSSION

Drawing on a number of sources of knowledge in learning to teach, student teachers participate as members of many different communities, cultures which may exist in harmony with one another or may clash and cause tension. Rob and Daniel found themselves situated among a number of cultures: the academic community of the university English department, the English education community (including the student-teaching seminar), cooperating teachers and other local school colleagues, and the adolescent community. Often, these sources—as well as other pressures such as prescribed curricula and state-mandated achievement tests—provided them with conflicting views of English, of teaching, and of schooling.

As Bullough, Knowles, and Crowe (1992) suggest, "Becoming a teacher is an idiosyncratic process reflecting not only differences in biography, personality, and in conceptions of teaching and how well or poorly they are developed, but also in school and school-community contexts" (p. 187). However, like Bullough, Knowles, and Crowe, I believe that we can enable novices to find their voices as beginning teachers as they negotiate among various conflicting discourses. To do so, however, we must reconceptualize and redefine teacher education.

First, teacher candidates need regular opportunities to articulate and to develop their conceptions of teaching and learning, as well as their visions of English as a discipline and a subject for study in school. Even though Rob and Daniel began this process as participants in this study, these activities were not consistent, formal features in their teacher education program. Writing individual histories or personal autobiographies (Knowles & Holt-Reynolds, 1991) as well as reading and discussing case studies of other beginning teachers (Carter, 1992; Shulman, 1992) will enable novices to unpack their preconceptions and perhaps even reconceptualize or overcome them. Conducting classroom ethnographies and action research projects forces prospective teachers to develop their own personally situated theories of learning and teaching (Kutz & Roskelly, 1991). All of these experiences should be regular features in teacher education coursework, enabling prospective teachers to begin to see themselves as knowledge-makers and knowledge-creators rather than knowledge-receivers (Fox, 1993).

Second, as prospective teachers work together in cohort groups, they begin to see the importance of the social construction of knowledge in teaching. Rather than promoting isolation and individualism, teacher education programs should promote community. The student teachers in this study—particularly Daniel—pointed to the importance of the collegiality they shared with the members of their student-teaching seminar group and repeatedly met together outside of the scheduled meeting time. Rob and Daniel did not experience such collegiality at the local junior-high school setting; the 10 English teachers there had little opportunity for the development of a school-based community. In order for teachers "to challenge current practices and to work for change" (Grossman, 1992), they must have time to talk, time to work together in order to determine their own needs and questions, and time to create conditions for change within their specific environments (Cochran-Smith & Lytle, 1990).

Finally, teacher educators must reconsider the importance of context in learning to teach. Even though Rob and Daniel student taught in the same junior high, they encountered different tensions and reacted differently in individual contexts. Comfortable with his cooperating teacher's style (the familiar transmission model which he loved), Rob was amazed when the adolescents in his classes balked at his similar approach. In contrast, Daniel valued his eighth-grade students' positive reactions to his student-centered approach, but his cooperating teacher pushed him toward more "skill and drill" to prepare for state-mandated tests.

This study suggests that teacher educators can learn much about their own work by listening carefully to the voices of the beginning teachers with whom they work—individuals like Rob and Daniel. In teacher education coursework and in research endeavors, teacher educators should listen to their students in order to learn more about how teacher candidates' knowledge of literacy instruction is acquired and modified over time. Longitudinal investigations which build upon the important themes of individual history and personal autobiography, collegiality and school-university partnerships, and local school/community contexts will enable us to gain a greater understanding about beginning teachers' conceptions of subjects such as English, their sources of knowledge for teaching, and their continual processes of professional development (Hudson-Ross, Fox, & McWhorter, 1992).

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DIFFERENCES IN CHANGING READING TEACHER BELIEFS: GUIDING SAUDI ARABIAN GRADUATE STUDENTS TOWARD A NEW METHODOLOGY FOR READING INSTRUCTION

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Although research has stressed the important effect of reading teachers' own educational experiences on their beliefs and practices (Herrmann & Duffy, 1989; Measor, 1986; Roehler, Duffy, Herrmann, Conley, & Johnson, 1988), this research has primarily focused on reading teachers with American educational backgrounds. This study examines the process of change in the beliefs of a cohort of graduate students from Saudi Arabia and looks at the effects of theory on their practice, as they progressed through the first year and one half of a reading education master's program.

According to Bean and Zulich (1992), different factors interact to shape future teachers' beliefs and practices in content-area reading. These same factors: knowledge, teaching experience, opportunity for reflection, and personal educational background could also apply to reading teachers in general.

It was useful to relate these factors to our Saudi students during our study. They were exposed to the same theoretical knowledge base as American graduate students (Harste & Burke, 1977; Johnson, 1987, Shulman, 1986). Practicum experiences were provided to enable them to apply this knowledge (Feng, 1990; Isenberg, 1990; Richardson, Anders, Tidwell, & Lloyd, 1991). They were encouraged to incorporate reflection into all aspects of their learning and practice (Prawat, 1989; Tom, 1985). The major difference centers on their own personal education: a structured, authoritarian style, where memorization, recitation, and repetition were stressed (Massialas & Jarrar, 1983).

Given the Saudi students' alternative background, it was not clear what effect this would have on their change process. Two questions guided this study: (a) Did the program change the students' theoretical beliefs about learning, teaching, and reading? and (b) Did the students' "changed" beliefs influence their practice?

METHODS

Participants

Eighteen graduate students from Saudi Arabia came to the United States to study at an urban university reading center. They were enrolled, as a cohort, in a special 54 credit hour master's program in Reading Education to prepare them to adapt a reading center appropriate for their culture. The students completed reading theory classes before they started to integrate theory with any extended practice.

The professors in this program shared a common set of assumptions about teaching and learning. These included the following beliefs: (a) effective teaching approaches the learner holistically and must focus on cognitive, metacognitive, and affective processes; and (b) to encourage independence in learning, it is necessary for students to use a variety of strategies, based on their prior knowledge, and to apply their learning to other contexts.

The students in this study, 8 males and 10 females, were selected, in part, due to their expressed dissatisfaction with the educational system in Saudi Arabia. They came with varied backgrounds; 4 of the 18 were educators, 3 had masters' degrees in other disciplines, all from American universities. They ranged in age from 23 to 47; 12 had previous work experience in outside fields including: social work, finance, health care, computer consultation, and management.

Data Sources and Analysis

Primary data used for analysis were collected through a variety of sources. Structured open-ended interviews were conducted at the Center as each student arrived. Literacy biographies were written for a class at the onset of the first semester. Other data were collected at set intervals throughout the program. Weekly students' reflective writings were completed outside of class; students wrote monthly in-class essays that reported on their assumptions and beliefs. At the beginning of the second semester and at the end of the final semester, the students answered questionnaires and generated concept webs. Weekly observations and field notes of practice teaching, as well as ongoing transcribed audio- and video-tapes of class sessions served as secondary data sources.

Analysis

An analysis typical of constant comparison approaches (Bogdan & Biklen, 1982; Glaser & Strauss, 1967) was used by the research team to generate broad conceptual categories for coding purposes. Each piece of data was coded according to the broad categories. As new categories emerged, they served to inform the analysis; each previous piece was then recorded in a recursive process.

A computerized numerical coding system was devised to track every coded statement by data number as well as to assign each student a code number. This enabled us to look either at each coded category, or each student, independent of the other. Categories were saturated (Glaser & Strauss, 1967); statements were coded in all possible categories. Each coded category was then scrutinized by both authors numerous times. The first few times overall impressions were gathered; next, a more focused analysis technique was used to ensure that the patterns became clear, which either reinforced or disproved the initial impressions. For each pattern that emerged, it was noted how many students followed it, and how many did not. This counting reaffirmed the emergence of a clear pattern.

At the end of the analysis, no new patterns became evident, but the same patterns continued to appear. This strongly attested to the existence of the patterns. These patterns enabled us to track the changes in the Saudi students' beliefs and thinking, which led to our research results.

RESULTS

Baseline Beliefs

All of the students entered the program questioning how they had been taught themselves and were motivated to learn "a new way." Both "good" learners and "good" teachers were described by short descriptors of personality attributes. "Good" learners obey, are well behaved, interested, do not give trouble, are friendly, shy; "good" teachers are patient, friendly, organized, on time, understanding, not harsh, lighthearted, accept criticism. Teachers were seen as the providers or holders of knowledge by 11 of the 18 students, and were described as needing a good education, a good background, and professional skills.

Although 11 of the students reported that they were good thinkers, they had a limited view of the connection between thinking and learning; 7 of the 18 reported that thinking had nothing to do with learning. Reading was thought to be for school or exams, where the only approach was memorization, by 7 of the 18, and for enjoyment by 8 of the 18. Only 2 of the students thought reading was strategic, and this was expressed in very general terms. A traditional shared belief was that "1,400 years ago the message from God was to learn to read—this is why reading is important."

Changes in Beliefs

The teaching and learning beliefs of the Saudi students seemed to be particularly susceptible to change. Most of the students agreed with a member of the cohort who stated "because we believe that the way we have been taught is wrong, we want to change the way we teach others." There appeared to be a willingness to accept literally, with few questions, everything that was presented. This may have stemmed from their view of teaching which was expressed by many of them as "asking students to give the information back," or "pouring an amount of information, knowledge, content, from a source into [the] student," or "spoon-feeding with information." In their writings and class discussions, they demonstrated an expanded view of reading and learning: teaching reading was described as "teaching good strategies to enrich thinking . . . and apply these strategies in real life." They became adept in the ability to diagnose weaknesses in reading and voiced the "need to know their [students'] individual needs and abilities to reach [these] children."

By the middle of the first semester, memorization and recitation were no longer mentioned as learning strategies. The students did not seem to integrate their own educational practices into their new understanding of the learning processes.

By the end of the second semester, 5 of the 18 students described learning as an active thinking process, moving beyond memorizing: "thinking is taking more place than memorizing while you are learning and this by involving the students to find out by learning." Only 2 of the 18 continued to see teachers as the providers of information. Eight of the 18 reported teaching as strategic, in a more coherent, but still nonspecific manner:

> Teaching strategies like cause and effect, analysis, comparison, or any kind of thinking strategies help the student to use these strategies [with] any kind of information he needs to understand. . . . Teaching is an operation to pass the information to the student through the teacher by using many ways. These ways or strategies should be provided to meet the students' needs. (Saudi student)

Only one student used a personal attribute (patience) in a description of teachers. Reading was seen as a way of getting information, constructing meaning, and as a tool for learning by 15 of the 18. There was some evidence that the students expanded their concepts of reading to view it as, according to a student, "a full thinking process which activates our minds [and] helps us gain knowledge" or "continuous: one that requires the reader to activate schema, to read between the lines, and to both record information and react to it."

Although they spoke and wrote increasingly of the connection of thinking to learning and reading, it was interesting that very few students challenged any of the content or theoretical framework of the learning in their classes. They seemed to be learning what to say in response to questions and using the constructs and terminology from their classes:

> I have observed and learned many things since the program has started. I observed that reading is not only open[ing the] text and getting the information that it has in it, but it is an operation that needs a personal schemata, skills, and brain development to connect the new information with the personal prior knowledge. (Saudi student)

When they did ask questions in class, they were focused on obtaining the "right" answer or the "right" way to do something. As one student said, "I assumed that we would study ways to help students learn more perfect than they usually [learn], how to think right, how to read fast, but I had no idea how I will do it."

From Theory to Practice

In their first tutoring practicum, all the students attempted to approach teaching as strategic and most attempted (with varying degrees of success) to include critical thinking. They did not approach the teaching of reading as a holistic process as they had been taught, but rather as a skill-based activity. They did not model the strategies that they themselves used as learners.

Additionally, in this first tutoring experience, it appeared very difficult for the students to put theory into practice, except in isolated activities. As tutors, 6 of the 10 Saudi females had difficulty being directive and 5 of the 8 Saudi males were observed as being overly directive. This is consistent with their traditional societal roles.

There was not a clear integration of theory and practice in their ability to teach reading as an interactive process which involves the four cueing systems: phonetic, syntactic, semantic, and schematic (Brewer, 1972; Goodman, 1971; Jones, 1982; Rumelhart, 1984; Smith, 1979). The students were aware of the individual needs and weaknesses of their clients. (Many of the clients had been diagnosed by the students.)

However, many were unable to determine activities that would be helpful or appropriate for their stated purpose. It was difficult for them to use their clients' individual strengths in order to develop reading proficiency. Their activities, in most cases, were not related to each other. There were few transitions, or common threads, to create meaningful, connected tutoring sessions.

DISCUSSION

It seems clear that this group of students was particularly accepting of the new theories presented to them. This may be due to the early learner roles that they developed in their own educational system, which relied on lectures with no discussion. It was difficult to assess their belief changes as they tried out the new educational terminology freely and enthusiastically, if not always correctly. This lack of resistance to the adoption of new theory may have ben reinforced, in part, by the homogeneity of the educational philosophical beliefs held by their instructors. They were not exposed to many opposing views.

The transition from theory to practice was particularly difficult for these students. Their beliefs about reading, learning, and thinking appeared to change in their oral and written language more than in their practice. In fact, many of the students appeared to reflect the traditional gender roles of their society in their practice. Although memorization and recitation strategies had dropped out, their focus in tutoring was narrow and they perseverated on the idea that they needed strategies to "fix" the reading problems.

We encountered the first significant sign of resistance to change when the students began their practice in the third semester. Knowles and Holt-Reynolds (1991) suggested that students who actually used the strategies they would later teach should demonstrate less resistance. Even though our students applied reading strategies for their own learning, they still did not want to incorporate them in their practice teaching and tutoring.

There may have been a number of reasons for this resistance. First, they had internalized a theoretical framework that they could discuss but not apply. Second, the practice did not occur until they had become firmly entrenched in their role as students, which may have affected their instructional capability (Kinzer, 1988). They had great difficulty making the transition from student to teacher. A third factor to consider is the great disparity between the early educational experiences they had in their country and the models they were being encouraged to use.

Overall, however, our data suggest that resistance to changing beliefs may have stemmed from Bean and Zulich's (1992) fourth factor, their own cultural and educational background, specifically their entrenched beliefs in gender roles and their traditional concepts of teaching and learning. It is possible that to minimize this resistance to change, and the disparity between old and new, programs for learners with traditional educational histories should incorporate ways to recognize the learners' previous schemata. This may provide a bridge to connect prior knowledge and new theory to practice.

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LITERACY AND LITERATURE IN ELEMENTARY CLASSROOMS: TEACHERS' BELIEFS AND PRACTICES

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One of the recent major trends in literacy instruction is "literature-based reading" (Cullinan, 1989; Honig, 1988). Although researchers have described various models for literature-based reading (Hiebert & Colt, 1989) and have presented the perceptions and practices of individual teachers (Scharer, 1992; Zarrillo, 1989), few have explored how teachers interpret literature-based reading instruction on a wider scale. Results from our initial research (Lehman, Freeman, & Allen, 1992) of a select group of teachers already committed to the use of literature raised the following concerns: Do teachers have an underlying theoretical framework about literature-based reading instruction? What knowledge bases do teachers draw upon regarding literacy and literature? What stance do teachers have toward literature and its use in the classroom? To increase our understanding of literature-based reading instruction as it is carried out in urban, rural, small city, and suburban elementary classrooms at a range of grade levels, we replicated our earlier study on a statewide basis.

Ohio is a particularly good site for a study on literature-based reading. For over 10 years, an annual international children's literature conference attended by 2,000 people has been held in the state capital; regional children's literature conferences are sponsored annually by universities and professional organizations; and, like many other states, a new state Model Competency-Based Language Arts Program emphasizes the use of children's literature.

The present statewide study examined three questions that highlighted teachers' beliefs, their practices, and the relationship between the two in the area of literature-based literacy: (a) What are teachers' views about the role of children's literature in reading instruction? (b) How do teachers use literature in their classroom reading programs? (c) What is the congruence between teacher beliefs and teacher practice concerning literature-based reading instruction?

METHOD

Data for this investigation were gathered in two phases. Phase 1 of the project consisted of a survey providing quantitative information about teachers' perceptions and practices. During Phase 2 of the study, qualitative data were collected in the classrooms of a subsample of teachers to validate teachers' self-reports of practices and their congruence with teachers' stated beliefs.

Phase 1

A two-part questionnaire was designed by the researchers to assess teacher perceptions of literature-based reading instruction and to identify related classroom practices. The teacher perception component of the questionnaire was modeled after the Theoretical Orientation to Reading Profile (DeFord, 1985) and included 12 items to which teachers responded using a 5-point Likert scale. The second component, instructional practices, was patterned after an instrument to survey practices in writing instruction (Freeman, 1989) and consisted of forced-choice questions as well as questions where multiple responses were possible. The questionnaire was pilot-tested and modified (with assistance from a consultant with expertise in survey instruments) based on the preliminary results.

This survey instrument was sent to a sample of 1,000 teachers in Ohio, 200 each in Grades 1, 2, 3, 4, and 5. Participants were selected from a stratified random sample of diverse types of school districts in the state (large, small, urban, rural, suburban). The sample was stratified from a complete listing of schools in the state provided by the state department of education. Of the 350 public school teachers who returned the survey, 55% had taught 15 years or more, whereas only 4% had taught less than 4 years. Almost one-fourth of the respondents (23.7%) were first-grade teachers. In terms of teaching location, 36.26% of the respondents identified their school as rural, 29.82% as suburban, 18.71% as small city, and 15.20% as urban.

Phase 2

At the end of the questionnaire, respondents indicated their willingness to participate in a follow-up interview from which a stratified random sample of nine teachers was selected. One interview with each teacher after school hours, lasting approximately 1 to 2 hours, probed specific issues. These issues were identified during analysis of the questionnaire as needing more in-depth study and were structured around three general areas: teachers' knowledge and understanding about children's literature, how they make instructional decisions, and how they assess children's growth. Interviews were tape recorded and field notes were taken. The interviews were held in the teachers' classrooms, which we were then able to examine more closely with the aid of a checklist. The major categories on the checklist enabled us to focus on the literacy/literature environments and included: evidence of displays about children's literature, the number and types of children's books in the classroom, materials or equipment that support children's interactions with books, evidence of cross-curricular links involving children's literature, and resources (i.e., library availability and professional publications) for literature-based teaching. Slides were taken to capture this information visually. In addition, selected artifacts of teacher-created planning materials and children's literature-related work were collected to provide further supportive information.

Data Analysis

Data from the questionnaire were analyzed using several procedures. For each item, the percentage of responses was determined; means also were calculated for those items where appropriate. Respondent characteristics (teaching location, years of experience, grade level) were used as variables in computing analyses of variance. In addition, a canonical discriminant analysis was computed to determine the congruence between teacher beliefs and practices for the questionnaire. This technique provided insight regarding whether beliefs predicted which practice was used and which of the beliefs might be most related to the use of a particular practice.

Data from the nine interviews and observations first were organized through content analysis by examining the categories developed for the structured interview and the classroom checklist. The second stage of the qualitative analysis was data driven. During multiple readings of the nine interviews and surveys, we were able to identify five constructs which emerged from clusters of survey questions and data gathered during the interview process. These constructs were: (a) structure versus nonstructure (How are materials, scheduling, and assignments organized?); (b) literacy versus literary (Does the use of literature emphasize reading and writing instruction or the experience of literature itself?); (c) outside decisions versus teacher decisions (Where is the locus of control for instructional planning?); (d) teacher-centered versus child-centered (Who initiates and directs classroom learning experiences?); and (e) cognitive versus affective (Is literature used primarily for children to acquire knowledge or as a means for enjoyment?). This process allowed us to develop profiles of each teacher that reflected both diversity and similarity across the continuum of each construct and facilitated data interpretation (Tesch, 1990).

RESULTS

Results from the analysis of 350 surveys will be discussed first, followed by findings from interview and observational data collected in nine classrooms.

Major Trends From Survey Results

The beliefs section of the questionnaire revealed teachers' views about the role of children's literature in reading instruction (see Table 1). As Table 1 indicates, teachers demonstrated strong agreement on several items. It is notable that for some of these items of high agreement, sizable percentages of respondents indicated they were undecided. For example, although 68% strongly agreed or agreed that "it is more important for children to read widely than to engage in an in-depth study of one book," 20% were undecided about this issue. On other items, such as "children's literature should be studied using a structured, sequential curriculum," there was wide discrepancy in teachers' beliefs with responses at both ends of the continuum and more than 25% of respondents choosing the neutral or undecided option.

Table 1

Teachers' Beliefs about the Use of Children's Literature Percent of Responses to Each Item

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Teachers should develop their own literature programs rather than relying on published ones.	13.2	31.5	30.1	17.0	8.2
2. Children's literature should be the primary component of a reading/language arts program.	42.9	34.7	9.6	10.5	2.3
3. It is more important for children to read widely than to engage in in-depth study of one book.	31.6	37.1	20.8	9.0	1.5
4. It is important for schools to have a suggested list of children's books by grade level.	41.0	36.9	12.8	5.2	4.1
5. Children's books should be used for instruction of specific reading skills.	18.1	41.1	20.4	16.6	3.8
6. I feel confident about teaching literature without benefit of a published program.	24.1	30.8	17.2	18.3	9.6
7. It is more important for children to informally experience literature . . . than to receive direct teacher instruction.	6.4	26.7	22.9	34.2	9.8
8. The purpose of class activities and questions about a book is more to assess comprehension than to develop literary understandings.	5.0	26.1	20.8	39.3	8.8
9. Children's literature should be taught in a separate program from reading/language arts . . .	1.2	6.4	7.8	27.2	57.4
10. There are certain books that every child should read.	21.1	31.9	26.1	14.2	6.7
11. Children should learn how to analyze books by their literary elements (i.e., theme, style).	11.9	40.8	29.9	13.9	3.5
12. Children's literature should be studied using a structured, sequential curriculum.	6.9	19.7	26.4	34.8	12.2

In terms of instructional practices, teachers were remarkably similar in several areas. More than 80% of the teachers report that their students have positive attitudes toward reading, that they read aloud to their classes at least once a day, that students in their classes have time to read a book of their choice daily, and that they read a wide variety of children's literature to prepare for teaching literature. Other practices elicited a variety of responses from teachers. Although 18% of the respondents no longer used a basal reader in their classroom, 27% used the basal more frequently than literature. At least 20% of the teachers assigned children a specific extension activity following the reading of a book. Teachers' responses regarding how children are grouped for instruction varied the most. Although 17% group students according to reading ability, 29% do not use grouping at all, and 45% use flexible grouping dependent on the specific project or activity.

The most frequently used assessment procedures were projects/extension activities and teacher observation; the least frequently used were paper and pencil tests. However, 13.6% of all respondents do not assess literature study. The most frequently cited reason for selecting children's books was the children's interest in the book, followed by the literary quality of the book, curricular needs, the skills that books can be used to teach, and mandates from external forces.

Results of the canonical discriminant analysis support a significant relationship between certain teacher beliefs and practices. Analyses of variance provided information on the strength of the relationship as well as the specific nature of the relationship. For example, those teachers who indicated that "students in my classroom have time to read a book of their choice at least once a day" were likely to agree with the belief that "it is more important for children to read widely than to engage in an in-depth study of one book." On the other hand, teachers whose students "read a book of their choice occasionally" were undecided regarding their "confidence about teaching literature without benefit of a published program." Teachers who report that they do not use basal materials in their classrooms (a) strongly agree that "children's literature should be the primary component of a reading/language arts program," (b) agree that "teachers should develop their own literature programs," (c) feel "confident about teaching literature without benefit of a published program," and (d) disagree that "children's literature should be studied using a structured, sequential curriculum."

Teachers whose children "develop their own ideas for activities" following the reading of a book (a) feel confident about developing their own literature program, (b) agree that "children's literature should be the primary component of a reading/language arts program," and (c) agree that "it is more important for children to informally experience literature for themselves than to receive direct instruction." On the other hand, teachers whose children do not engage in book extensions (a) are undecided about whether "children's literature should be the primary component of the reading program," (b) are undecided about the importance of children informally experiencing literature, and (c) feel less "confident about teaching literature without a published program."

Teachers whose primary use of children's literature is for reading instruction feel confident about teaching literature but are undecided whether questions about books are more to assess comprehension or to develop literary understandings.

Interview Results

The nine teachers who were interviewed varied considerably along the first construct of structure versus nonstructure. A fifth-grade teacher, for example, had over 2,000 trade books in the classroom. However, there appeared to be limited opportunity for students to use the books. Basal reading materials were used exclusively on the first 3 days of each week and students read assigned novels on Thursdays and Fridays. Reading self-selected books was limited to time after students' assigned tasks were completed. In another classroom, children had unlimited opportunities to interact with books in self-initiated ways. Desks were arranged in groups of five, and in the middle of each grouping was a "tub" filled with books for children to read. When the researcher entered the classroom, many children eagerly approached her to read books of their own choosing.

The second construct (literacy vs. literary) illustrates that, in general, teachers' purposes for using literature favored a literacy rather than literary stance. There was little evidence that teachers used trade books to foster literary understandings beyond pleasure in reading. Activities related to literature were more likely to be used for reading and writing instruction or connected to a curricular area such as science or social studies. For example, one teacher had developed "backpacks" on various topics in which were informational books, related objects and materials, suggested activities, and a response journal. Children took these "backpacks" home where they read the books and completed the activities with their parents. Overall, teachers selected trade books based on the books' appeal for their students and were consistent in their goal for students to read enjoyable books.

Third, an essential issue deals with who controls curricular and instructional decisions in the classroom: teachers themselves or factors external to teachers, such as mandated policies, teacher manuals, or courses of study. Except for one third-grade teacher, most of the teachers did feel that the locus of control for curricular decisions rested with them. This data supports the survey results which indicated that 63% of all respondents use their own teaching guides and lesson plans and 55% either agree or strongly agree that they feel confident about teaching literature without benefit of a published program.

Classrooms varied along the fourth construct from being child-centered to being more heavily teacher-centered. A pattern emerged that displayed parallels between this construct and the amount of structure evident in these classrooms: most teachers who were highly structured had teacher-centered classrooms, whereas child-centered classrooms tended to be less structured. One exception to this trend was a second-grade teacher who relied heavily on the structure of a basal program, a curriculum guide, and ability grouping of children in her class. She emphasized primarily books of authors included in the basal, and she named the basal program and other commercial materials as her favorite professional resources. But at the same time, her classroom contained prominent displays of children's literature-related artwork and writing, and she emphasized (along with most of the other teachers interviewed) the importance of child interest in her book selection.

Finally, the cognitive/affective construct refers to the emphasis teachers primarily place on selecting and using books affectively for enjoyment or cognitively as a tool to help children acquire knowledge about literature, literacy, or specific content. Seven of the nine teachers clearly took an affective stance whereas two teachers were more neutral. These findings expand the literary/literacy construct. Even when teachers had strong literary goals, they were expressed in terms of children's enjoyment of literature and their motivation to read books, rather than developing children's understandings of the writer's craft. Likewise, survey results indicated that 39% of the teachers identified "children's interest" as the most frequently used reason for selecting children's books.

DISCUSSION

Two areas for discussion emerge from the results of this study. First, as with any current buzzword in education, "literature-based reading" has developed a somewhat elusive definition. To the teachers in this study, the term appears to center on the use of specific materials and resources, that is, children's literature, to teach reading. Yet neither a consistent belief system nor a set of theoretical principles seem to ground this interpretation of the term. In the survey data, for example, large numbers of teachers were undecided on critical issues related to literacy and literature such as whether a structured, sequential curriculum should exist for literature.

Second, this study suggests a tension between the literacy-literary dichotomy. The results show that many teachers increasingly are using literature for reading instruction, are comfortable developing their own teaching materials, and are making important links across curricular areas. However, teachers seem to place less emphasis on such areas as elements of literature, wholeness of text, craft of the writer, or artistry of the illustrator and focus more on how literature supports specific curricular areas. In other words, teachers view children's literature as a means for instruction in reading or other curricular areas (literacy), rather than literature as an end in itself, studied for its own sake (literary).

In conclusion, it would appear from our study that the movement toward literature-based reading has arrived at an important point. The teachers in our study are, by and large, enthusiastic about bringing children's literature into their classrooms, believe that literature should be a central part of the reading program, and see great value in using literature to support other curricular areas. Teachers' knowledge of basal readers and curriculum guides seem to help them make decisions of how they can use literature to teach subjects such as reading, social studies, and science. However, teachers seem less assured about how to develop children's understandings of trade books as literary works in ways that would illuminate the artistry of the author and illustrator.

Therefore, a need exists for further research on how best to support teachers as they address the tension between *using* literature to achieve curricular goals and helping children develop their literary understandings. Studies might focus on such questions as: How is children's literature being taught in teacher education programs? How do teachers read and think about adult books? How do the newer commercial reading systems that advertise themselves as literature-based support children's growth in knowledge, not only about reading, but also about literature itself? As literature-based reading is being adopted more widely, it seems vital that these issues be addressed promptly and thoughtfully. It is important that literary as well as literacy understandings be accepted and included as part of this term.

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LATINO STUDENTS' CONCEPT OF COGNATES

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Spanish-English cognates (words familiar in both form and meaning) are potentially an important source of information for Latino bilingual readers. Because much of our academic English vocabulary is Latin in origin, many difficult words in English have close parallels in Spanish. Often, the cognate of a low-frequency English word is part of everyday Spanish vocabulary—for example, *pensive/pensivo*. If bilingual students recognize cognate relationships, and know the Spanish word, their English reading might be substantially enhanced.

Despite evidence that bilingual students' English reading is adversely affected by their lack of familiarity with English vocabulary (García, 1991), few researchers have investigated what bilingual elementary students know about cognates. Research by Jiménez, García, and Pearson (1991) suggests that there is substantial variation in Latino bilingual students' recognition and use of Spanish-English cognates in their English reading. They report that sixth- and seventh-grade bilingual students who were proficient readers in English made effective use of their cognate knowledge whereas less proficient readers did not.

In a recent study (Nagy, García, Durgunoğlu, & Hancin-Bhatt, 1993), we investigated the relationship among fourth-, fifth-, and sixth-grade Latino bilingual students' recognition and use of cognates in their English reading and their English and Spanish vocabulary knowledge. After controlling for English vocabulary knowledge, students' English reading performance was found to be significantly related to their Spanish vocabulary knowledge and their ability to identify Spanish-English cognates. For students who identified a large number of cognates, there was a positive correlation between Spanish vocabulary knowledge and English reading comprehension. For students who identified a small number of cognates, this correlation was negative. Although bilingual students as young as fourth grade could use cognate relationships in their English reading, students in our sample exhibited a wide range of cognate recognition. We tentatively concluded that students at this age are only beginning to develop the concept of cognate, and that there are large differences in their understanding of this concept.

The purpose of the present study is to examine the cognate recognition data from Nagy et al. (1993) in detail. We are specifically interested in investigating the nature of the concept of cognate held by the students, understanding the variation that occurred in cognate recognition, and documenting the relationship between the students' understanding of cognates and their processing of English text.

METHOD

Subjects

Subjects were 81 students from two predominantly Latino urban elementary schools (K–8); 32 were in fourth grade, 36 in fifth grade, and 13 in sixth grade. They were drawn from a pool of 107 students identified as being Spanish-English bilinguals by their principals. Subjects who were absent on the days of the experimental sessions or who could not participate in some tasks due to extremely limited English reading ability were excluded.

Experimental Measures

Texts. Four expository passages at the fourth-grade reading level were edited to provide short, self-contained English texts (177–415 words) with a number of clear Spanish-English cognates. Three adult bilingual raters determined that in the passages, 193 words were true cognates, 12 were false cognates (i.e., words similar in form, but whose present-day meanings are unrelated, such as *arena,* which means "sand" in Spanish), and 450 were noncognates (multiple occurrences were counted only once).

Explicit cognate identification. Students were given a brief written explanation of cognates ("Some words in English are spelled the same, or almost the same, as words in Spanish, and have almost the same meaning"), which was read aloud, along with illustrative examples of cognates, and a sample text with cognates circled. They then were given the four expository passages and asked to circle all the cognates they could find.

Vocabulary knowledge measures. Yes/no vocabulary tests (Anderson & Freebody, 1981) were constructed in both English and Spanish to assess students' knowledge of specific cognates and passage vocabulary. The English vocabulary test contained 113 words from the passages, 16 low-frequency English words not from the passages, and 98 English-like nonwords. A parallel Spanish yes/no vocabulary test contained the cognates or translations of the 113 words from the English passages, cognates of the 16 low-frequency English words not from the passages, and 98 Spanish-like nonwords. Words were listed in random order on both tests. Subjects reported whether they knew individual words by circling *yes* or *no* next to the word on the test.

Procedures

Subjects were tested in small groups in four sessions on 4 separate days. On the first day, the Spanish yes/no vocabulary test was given, along with a background questionnaire. Two weeks later, the English yes/no vocabulary test was given. On the following day, students read the four passages and completed a comprehension measure (used in Nagy et al., 1993). On the subsequent day, they identified and circled cognates in the four passages.

Analysis

Both statistical and qualitative methodologies were used to investigate the students' cognate-circling performance. The qualitative analysis identified variations and patterns across the data as revealed through the use of the constant comparative method (Glaser & Strauss, 1967). The combined findings are discussed under the following headings: variability in cognate recognition, rudimentary concept of cognates, orthographic overlap, understanding of morphological relationships, and bilingual proficiency and text comprehension.

RESULTS AND DISCUSSION

Variability in Cognate Recognition

Students varied in the number of cognates they identified and in their ability to differentiate cognates from noncognates. The students circled a mean of 55 true cognates (*SD*=23) out of a possible total of 193 true cognates, with a range from 4 to 109. The wide range in cognate circling appeared to be due both to the students' varying conceptualizations of cognate and the extent to which they were motivated to do the task and/or willing to take a risk. There was a negative correlation, $r=-.52$, $p<.001$, between accuracy of circling (the proportion of words circled that were true cognates) and the total number of words circled. Students who circled very few words tended to circle only cognates, whereas students who circled larger numbers of words included more noncognates.

Of all the words students circled, 71% were true cognates. On the average, students circled 1 false cognate out of 12 (*SD*=1.4, range 0–6), and 26 noncognates out of 450 (*SD*=28, range 0–126). It was clear that students were not circling at random; for example, function words were almost never circled. Rather, they appeared to be trying to identify cognates according to their own conceptualization of cognate or the definition given to them in the instructions.

Variability in students' recognition of cognates did not simply reflect their knowledge of the individual words in English and Spanish. On average, students circled less than half of the cognates they had reported knowing in both Spanish and English on the yes/no vocabulary tests.

Rudimentary Concept of Cognate

A breakdown of the students' circling performance by passage showed that their accuracy rate on the cognate-circling task declined as the students progressed through the passages (87% for passage 1, 71% for passage 2, 67% for passage 3, and 70% for passage 4). A one-way ANOVA indicated a statistically significant passage effect,

$F(3, 317)=15.4$, $p<.0001$; a Scheffé test revealed a statistically significant difference only between the first passage and remaining three. Although this finding may in part reflect student fatigue and passage difficulty, which were confounded in the study, we believe that this decline in accuracy occurred because many students had only a rudimentary concept of cognate, and began to forget the definition of cognate given in the instructions.

One indication that some students had limited prior understanding of cognates and were relying primarily on the explanation given in our instructions, is the occasionally very literal application of these instructions in the circling task. Some students circled words which we did not expect to be identified as cognates (i.e., which did not share a Latin root), but which were similar both in spelling and meaning. For example, they circled dates (*1795*), numbers (*900*), and proper nouns (*Jules Verne*). Forty-two students even circled "C" in the phrase *vitamin C*.

Students also circled a number of words that are clearly not cognates. For example, 22 of the 81 students circled high-frequency words such as *sun, earth, hair,* and *small.* Circling these words might indicate confusion about the instructions—that is, students may have begun to circle words for which they knew Spanish equivalents, forgetting about the criterion of orthographic similarity. However, because these students did not consistently circle high-frequency English words, we hypothesize that the students were confused about the linguistic heritage of these words. That is, they may have heard these words in a Spanish setting due to code-switching or code-mixing, and hence have considered them as belonging to both languages. Students who circled these words were not necessarily the poorer performers. One such student scored more than a standard deviation above the mean on the reading comprehension measure, and was average in the total number of cognates that she circled.

Orthographic Overlap

The students tended to circle words that were characterized by a large degree of orthographic overlap as measured by number of shared letters in English and Spanish. For example, the seven most frequently circled words involved identical spellings or the change or addition of one letter (*animal/animal, imagination/imaginacíon, temperature/temperatura, llama/llama, doctors/doctores, oceans/océanos, vitamin/vitamina*). This finding also was substantiated by a regression analysis using the word as the unit of analysis, in which number of students circling a word was the dependent variable. The number of shared letters was the strongest predictor of students' accuracy in circling cognates, accounting for 36% of the variance, $F(1, 191)=52.9$, $p<.001$.

When cases in which there were predictable differences in spelling (e.g., *ph* in English corresponds to *f* in Spanish) were included in the count of shared letters, an additional 4% of variance was accounted for, $F(1, 191)=12.0$, $p<.001$. Thus, students' recognition of cognates also involved orthographic/phonological overlap, that is, similarities in pronunciation and knowledge of conventions of spelling in Spanish and English. This type of overlap was found in several of the seven most frequently circled words, as well as in the eighth through the tenth (*family/familia, photographs/fotografías, telescope/telescopio*).

Understanding Morphological Relationships

Few of the students demonstrated that they could identify cognates when there was variation in orthographic form and syntactic function due to inflectional or derivational suffixes. Less than half of the 81 students identified cognates that ended in derivational suffixes which did not orthographically overlap with Spanish. For example, only 34 students recognized that *naturally* was the cognate of *naturalmente*, and only 9 recognized that *usually* was the cognate of *usualmente*. These findings also are substantiated by a follow-up study conducted by Hancin-Bhatt and Nagy (1993) in which they found a significant developmental trend in fourth and eighth grade Spanish-English bilingual students' ability to recognize cognates within morphologically complex words in which the suffixes do not orthographically overlap with Spanish suffixes.

The students also were not consistent in their identification of cognates with inflectional endings. For example, they were more likely to circle singular versions of a cognate in a passage than plural versions (e.g., 66 students circled *animal* but only 3 circled *animals*), ignoring the latter even when it came first in the passage, was more frequent, or intervened between two singular versions. In this case, the variation in orthographic overlap between the English and Spanish plural form is minimal (e.g, *animals/animales*), but more than in the singular version (e.g., *animal/animal*). The students' tendency to circle multiple occurrences of the singular version in the same passage demonstrates that they were not avoiding the plural versions simply because they thought they were not supposed to circle "the same" word more than once.

The students also were inconsistent in their cognate identification of English past participles and past tense verbs. We suspect that students had difficulty with this type of identification because in English the word form is the same for the past participle and past tense verb (e.g., *discovered*) but in Spanish it is different (*descubierto, descubrieron*). So, depending on how the word is used, its form changes in Spanish, even though there still is some orthographic/phonetic correspondence with the English cognate.

Bilingual Proficiency and Text Comprehension

Students appeared to take semantic and syntactic similarity into account when identifying cognates. The 10 most frequently circled words (see above) were identical in meaning across Spanish and English and were used syntactically in the same way in both Spanish and English.

The students' cognate circling frequently demonstrated that they were using what they knew about the two languages to help them decide if a word was a cognate, above and beyond orthographic overlap and semantic relatedness or identity. For example, most of the students did not identify cognates that were English possessives with an "apostrophe s" (a structure not found in Spanish), even when there was considerable orthographic overlap (e.g., *llama/llama's*).

The students' cognate recognition behavior also indicated that they were paying attention to the ways in which the words were used in the text, indicating that they had to be able to read the text at least at a minimal level. For example, 44 students circled science (*ciencia*), whereas only 28 students circled *scientific* (*científico*). Based on our regression analysis, *scientific* should have had a greater likelihood of identification as a cognate because it shares more letters with its counterpart that does *science*. However, the prepositional phrase in which *science* is used can be directly translated into Spanish (*of science/de ciencia*), whereas, the use of *scientific* as an adjective requires a change in word order (*scientific instruments/instrumentos científicos*).

SUMMARY AND CONCLUSIONS

Findings from this study suggest that upper-elementary bilingual Latino students' ability to recognize and utilize cognate relationships in their English reading is not fully developed, nor is it an automatic consequence of their being bilingual in Spanish and English. There was substantial variability in the number of cognates students identified, and in students' ability to differentiate cognates from noncognates. Most students recognized cognates, but their concept of cognate was rudimentary. After reading simple instructions, they were able to identify cognates that were orthographically and semantically similar. They also showed an awareness of orthographic/phonological patterns which had not been explicitly defined in the instructions. However, students had difficulty identifying cognates when the criteria of strict overlap in terms of orthography, orthographic/phonological patterns, semantics, or syntax were not met. Inflectional and derivational suffixes hindered their recognition of cognate relationships.

Their identification of cognates also depended on parallelism of use. A word was more likely to be recognized as a cognate if its use in the English passage was parallel in structure to a translation of the corresponding phrase in Spanish. Thus, students' recognition of cognates seemed to be influenced by their processing of the surrounding text.

It appears that the relationship between cognate recognition and English reading proficiency can best be understood as reciprocal. On the one hand, research by Nagy et al. (1993) and Jiménez et al. (1991) indicates that students' recognition of cognates can enhance their English reading. On the other hand, our findings suggest that students' processing of English text plays a role in their cognate identification. Therefore, recognizing cognates both contributes to, and is facilitated by, reading proficiency in English.

We believe that instruction on cognates could enhance bilingual students' reading. However, the present study did not address instructional issues. Cognate relationships are complex, and to use them in English reading requires considerable metalinguistic awareness and flexibility. Further research is needed to better understand students' conceptualization of cognates, and how students can best use their understanding of cognates in English reading.

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EXPLORING ISSUES IN CONCEPTUAL CHANGE

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Reading educators' interest in conceptual change has grown out of the study of misconceptions in science and their seemingly remarkable resilience. Since the earlier work of Maria and MacGinitie (1981), interest in the nature of misconceptions and their effect on reading has evolved into an interest in conceptual change. Since 1981, more than two dozen investigations have been conducted in reading education to test the effectiveness of instructional interventions including texts that are designed to change naive students' understandings of scientific concepts. In science education, over four dozen studies have been conducted for this same purpose, although without the emphasis on text. Reading educators are interested in the research on conceptual change because many of the same processes necessary for conceptual change in the broad sense are also necessary for conceptual change in response to reading text.

A meta-analysis of these studies (Guzzetti, Snyder, Glass, & Gamas, 1993) has revealed unresolved conceptual and methodological issues related to conceptual change, its constructs, and its measurement. Further, reading educators studying conceptual change have been influenced by researchers who study the role of culture, social interaction, and perception on conceptual change from constructivist, social constructionist, and other sociocultural epistemologies. These unresolved issues and new influences have driven the need for reflection. In this paper, we focus that reflection by discussing constructs of misconceptions and conceptual change, by discussing relevant epistemologies for studying conceptual change, by noting unresolved issues, and by setting directions for future inquiry.

WHAT IS A MISCONCEPTION?

At the present time, there is no accepted definition of a misconception in the literature on conceptual change. As a result, researchers often study different kinds of concepts and conceptual change when they study "misconceptions." Some may not be true misconceptions. Happs and Scherpenzel (1987), for example, studied the concept that apes are monkeys and monkeys are apes. Lawson (personal communication, April 14, 1991) argued that this is not a misconception; he posits that those who believe that monkeys are apes (and vice versa) merely have not learned the characteristics of the two animals. Misconceptions may also differ in the thinking processes they represent because they come from different sources. For example, socially acquired misconceptions may not be the same as those that are derived from instruction or from interactions with the physical world. A socially acquired belief in creationism seems qualitatively different when compared to a belief that seasons are caused by the changing distance between the earth and the sun. Belief in creationism is the result of social interaction with others who believe the same thing and is reinforced through argument and social sanctions against nonbelievers. Belief in an erroneous earth-sun relationship, however, is at least partially the result of one's private observation of the physical environment; in this case that proximity to a heat source produces greater warmth. Finally, misconceptions may be simple or complex. Maria and MacGinitie (1981) attempted to change a simple concept—the misconception that camels carry water in their humps instead of food, whereas Alvermann and Hynd (1989) attempted to change a more complex conceptual set. Alvermann and Hynd investigated the change from impetus theory, and belief that objects change their motion because of an internal force that gradually dissipates, to the belief in Newtonian mechanics. Misconceptions about motion represent a set of complex concepts believed to be derived from our inability to observe the physical forces responsible for an object's change in direction (McCloskey, 1983) and embedded in an entire "conceptual ecology" or way of thinking about the world (Strike & Posner, 1990). Changing this set of misconceptions would seem much more daunting than changing the single idea about what camels carry in their humps.

To fill the need for construct definition, Smith, DiSessa, and Roschelle (1991) recently defined a misconception as "an idea that produces a pattern of systematic errors which can be linked to a particular conception that generates them" (p. 11). In their view, a concept is only a misconception if it is of the complex type discussed earlier. Although we found no other definitions despite a thorough search of the literature, we did find that researchers suggest using a number of different rubrics to replace the term "misconception." "Preconception" or "naive conception" are often used to describe those concepts generated prior to instruction. Others eschew the label of misconception entirely because of its pejorative connotations and because it does not give credit to students who attempt to formulate theories (Champagne, Gunstone, & Klopfer, 1983). These researchers prefer to use terms such as "alternative conceptions" or "alternative frameworks." We, too, believe that another term is needed. Use of the term "misconception" implies a belief in the certainty of scientific knowledge—that there is an absolutely correct conception to be learned. But what is regarded as science today may be discarded as opinion or as naive knowledge tomorrow. Further, what is accepted as correct in any discipline is a result of the authority relationships that exist and may be changed based upon who becomes an authority. At the present time, agreement about labels for constructs and construct definitions are needed, however, so that researchers will know what kind of constructs are being described when certain labels are used.

WHAT IS CONCEPTUAL CHANGE?

Researchers have also not been clear about what constitutes conceptual change. although some refer to cognitive change in the same way they would all kinds of learning (Newman, Griffin, & Cole, 1989), others make a distinction between "learning" and "conceptual change." Whereas learning often involves the mere addition of new information into a person's schemata, conceptual change involves some reorganization of existing schemata, so that earlier beliefs seem incorrect. Learning can be (but is not limited to) conceptual change, and conceptual change is only one kind of learning. Hewson and Hewson (1984) call this process "conceptual exchange" and contrast it with rejection, memorization, and reconciliation (or "conceptual capture") of new concepts. Rejection and memorization place no demands on existing beliefs; when existing beliefs coincide with the new concept, students must simply "capture" or add the new concept to an existing conceptual framework. Only with "conceptual exchange" are existing beliefs altered.

There is disagreement in how to measure conceptual change. Dole (in comments made at a 1988 NRC symposium) argued that application tasks are more likely to reflect conceptual change because they determine the difference between comprehension and learning or accommodation. N. Marshall (personal correspondence, November 11, 1991) indicated that application tasks are not adequate to determine if conceptual change has occurred. Because conceptual change is defined elusively, researchers have used multiple measures to assess it and are not sure when they have documented its existence.

Several theories exist describing the conditions under which conceptual change takes place. Posner, Strike, Hewson, and Gertzog (1982), hypothesize four essential conditions necessary to change misconceptions that "play a generative or organizing role in thought" (p. 148). These include (a) cognitive conflict resulting in dissatisfaction with one's current conception as a result of instruction, followed by the degree to which the new conception is deemed (b) understandable, (c) plausible, and (d) useful. Brown and Clement (1987) regard bridging analogies—understood examples that can be used to help one solve unknown problems—as central aspects of conceptual change. By contrast, Karmiloff-Smith (1984) propose a model for change that does not rely on cognitive conflict or analogies. Rather, once learners have achieved successful solutions to separate tasks in a class of problems, they reflect on these and unify them into a single framework. Change takes place, then, after integration of separate successful experiences.

The creation of conceptual conflict and the use of bridging analogies have been shown to foster the learning of counterintuitive information (Guzzetti, Snyder, Glass, & Gamas, 1993). As theories that explain the conditions necessary for conceptual change, however, they need further exploration. At issue is whether a person's dissatisfaction with a current conception is a necessary condition for conceptual change. If necessary, does one have to be consciously and intentionally reflective about a conceptual conflict? Further, do conditions change as the type of misconception changes? For instance, are the conditions for changing a misconception about a discipline qualitatively different from the conditions for changing a misconception about a topic within that discipline?

Although personal motives and goals for learning were not considered in Posner, Strike, Hewson, and Gertzog's (1982) initial formulation of their theory, in a revision of that theory, Strike and Posner (1992) have articulated the need to consider them as well as their institutional sources. They mention the idea that individuals possess a "conceptual ecology," or a way of seeing the world as a result of underlying factors (Strike & Posner, 1992). The notion of "conceptual ecology" is important because it focuses on the underpinnings of one's ideas. Gilovich (1991) argues that erroneous perceptions of the world can arise from two sources of bias—motivational and cognitive—and that both of these sources interact. "To the extent that there is a motivational 'engine' responsible . . . , it is one that delivers its effects through processes that look suspiciously cognitive" (p. 80). Affective conditions are thought to influence what kind of and how much evidence is considered in our cognitive decisions. For individuals to undergo cognitive change, they may not only have to change their ideas about a target concept, but also modify its epistemological and affective underpinnings. Recent works by Schommer (1990) and Songer and Linn (1992) indicate that epistemological variables do have an influence on learning in the broad sense. But their effect on conceptual change is unclear, as is the effect of affect and other variables. Does an individual who goes through conceptual change always go through an underlying epistemological change? Does the type of cognitive change (e.g., simple or complex) affect how much the underlying motives, goals, and beliefs change? Is it possible to go through compartmentalized or partial epistemological changes? At present, these questions remain unanswered. The result is that our ideas about conceptual change are perhaps too simplistic and naive.

WHAT EPISTEMOLOGIES ARE RELEVANT TO CONCEPTUAL CHANGE?

It is generally acknowledged that, just as individuals who learn science are influenced by epistemologies, so are the researchers who study those individuals. The "views of the world" that are held by educational researchers appear to guide research questions and color the interpretation of results. Several epistemologies seem relevant to the notion of conceptual change and are mentioned here in highly abbreviated form. It should be realized, though, that there are numerous forms of these beliefs which resist reductionist definition.

One such epistemology is a type of constructivism derived from the ideas of Piaget (1950). Central to constructivism is the notion that the individual invents an interpretation of the world through experience and discovery. Although theorists often suggest that this discovery takes place in a social context (von Glasersfeld, 1992), the focus is on the innate mechanisms of the individual and the interaction of maturation and environment in the formation of concepts. In this constructivist scheme, an individual cannot be taught a concept unless it is already "known." That is, a person must be at a particular maturational level at the time a certain phenomenon is experienced, and the person must "discover" the concept that is derived. For this type of constructivist, the impetus for conceptual change is a conflict arising when one's experiences contradict one's previous beliefs (von Glasersfeld, 1988). If an individual is at an optimal maturational level, the contradiction will cause realignment of thinking to account for the current experience. Posner, Strike, Hewson, and Gertzog's (1982) notion that cognitive conflict is at the core of conceptual change fits in with the constructivist scheme. Piagetian Constructivists emphasize experience and discovery learning. Some argue that attempts by teachers and texts to teach concepts are manipulations that do not produce real learning (Lewin, 1992).

Another relevant epistemology is social constructionism (e.g., Gergen, 1992). Deriving their theory from Vygotsky, social constructionists argue that the formation of knowledge is dependent upon social interaction within a cultural context. In order to learn, they contend, students must be effective participators in a dialogue. "Appropriation" is a key term, introduced by a Vygotsky colleague Leont'ev (1981), that describes what happens during the dialogue. An individual will incorporate an idea into his own cognitive system that he heard from another. He will then use that idea to frame his subsequent discourse. All those who participate are appropriating each other's ideas, so that an individual cannot be studied, rather a "functional system" must be analyzed. Social constructionists emphasize collaborative and dialogic learning. Some discuss the need for dialogue between expert and novice (Newman, Giffen, & Cole, 1989). The novice appropriates from the expert those concepts that are within the "zone of proximal development"; that is, that are within the range of understanding given the novice's original level of conceptual development. Brown and Clement's concept of "bridging analogies" fits into the constructionist scheme.

Other sociocultural perspectives, derived from critical theory, emphasize the cultural nature of the act of learning. As important as "learning science" is learning the socially constructed nature of science knowledge and the way those in authority in scientific realms maintain their status arrangements through educational institutions.

These and other epistemological approaches increase our awareness of the role of culture, social interaction within culture, and individual mediation in the learning of concepts. Tension develops, however, when implications for instruction are posited. In science, it is generally acknowledged that student knowledge shifts from being intuitive to being socially constructed. Scientific knowledge, however, is constructed within a highly specialized social network of scientists. It is conceivable that students would never "invent" scientific ideas without instruction. Therefore, constructivists who believe that learning cannot be taught have difficulty explaining how students move from nonscientific to scientific notions (Lewin, 1992). Constructivists have difficulty in deciding if, when, and how the teacher and text should shape student knowledge. The most successful strategy reading teachers have studied to elicit conceptual change about scientific principles is refutational text (Guzzetti, Snyder, Glass, and Gamas, 1993). Yet this kind of text, that confronts a person's intuitive perceptions and argues that they are wrong, seems anticonstructivist.

Constructionist theory is also problematic. When constructionists argue that all concepts are mediated by the sociocultural context, they seem to ignore concepts that are derived from intuitive perceptions about the world experienced through the senses, as nonscientific perceptions appear to be (Driver, 1992). Instructionally, those constructionists who argue for collaborative learning may have difficulty eliciting learning when conceptual change is required. Indeed, reading researchers have noted that conceptual change fails to take place when students are allowed to discuss counterintuitive scientific notions without the mediation of the teacher or other authority figure (e.g., Hynd, McWhorter, Phares, & Suttles, 1991; Snyder, 1993). Even within groups of bright students where at least one student holds scientific ideas, nonscientific thinking can be the dominant outcome of such discussions. In one study (Alvermann & Hynd, 1989) of secondary students' interactive discussions *with* a researcher, however, discussion proved to be one of the most effective strategies to promote conceptual change (Guzzetti, Snyder, Glass, & Gamas, 1993). A likely explanation for the efficacy of teacher-led discussion and refutational text is the presence of an authority to confirm students' idea changes.

UNRESOLVED ISSUES AND DIRECTIONS FOR THE FUTURE

We end our discussion with questions. How can we best define students' alternative notions and conceptual change? Which theories/epistemologies best explain conceptual change? Can conceptual change take place without an accompanying epistemological change or with a partial change? Can conceptual change take place without metacognitive awareness? What counts as conceptual change? What is the role of "key elements" such as cognitive conflict or analogy? To what extent are our intuitive perceptions and shifts in perception socially or culturally mediated? Answers to these questions are central to our understanding of conceptual change.

As answers to these questions are being explored by researchers, we would argue for careful definitions of terms and descriptions of constructs. We also believe that more case studies need to be conducted by reading researchers since the information received from in-depth studies of student's conceptual changes may help us to develop hypotheses about relations among variables which are not yet clearly understood. The opportunity to interview, observe, and explore students' thinking and text processing may help our thinking about important issues. Sociocultural variables that affect students' conceptual change should also be examined to determine mitigating contextual conditions. Naturalistic investigations that explore cultural and social processes, because of their potential for helping researchers develop working hypotheses, may provide a more complete picture of the construct of conceptual change and the ways in which it occurs. Just as examining alternate epistemologies helps us better understand the nature of learning and conceptual change, engaging in the alternate types of inquiry suggested by these epistemologies has the potential to add to our understanding.

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CAUSAL RELATIONS AND THEIR EFFECTS ON THE COMPREHENSION OF NARRATIVE TEXTS

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This study represents an effort to contribute to the growing body of research attempting to unify two separate approaches to the study of comprehension and recall of narrative text (Fletcher & Bloom, 1988; Slater, 1992; van den Broek, 1988). The first approach, supported by the work of Trabasso and his colleagues (Trabasso & Sperry, 1985), describes comprehension as a problem-solving task in which the reader discovers a series of causal links that connect a narrative text's introduction to its conclusion. The second approach, supported by the work of Kintsch and van Dijk (van Dijk & Kintsch, 1983), focuses on the importance of short-term memory as a hindrance in the comprehension process. Fletcher and Bloom (1988) merge these two approaches by assuming that the most likely causal antecedent to the next sentence is held in short-term memory. From their perspective, this allows a reader to determine the causal structure of a text within the constraints of a limited-capacity short-term memory. Given this theoretical perspective, three variables are central to this line of inquiry: (a) time in short-term memory, (b) causal connections allowed, and (c) referential connections allowed.

THEORETICAL FRAMEWORK

Underlying the coherent representation of a text is an active process in which the reader finds connections between events by means of inferences (Collins, Brown, & Larkin, 1981; Fletcher, 1981; van den Broek, 1988). The inferences that unite events into a network of ideas are largely causal in nature (Black & Bower, 1980; Fletcher & Bloom, 1988; Trabasso, Secco, & van den Broek, 1984). That is, the reader uses prior knowledge of psychological and physical causality to find causes and consequences of focal events, and thereby establishes coherence in text.

Using notions about causality from philosophy (Mackie, 1980; Toulmin, 1964), rhetoric (Corbett, 1990; Perelman & Olbrechts-Tyteca, 1969), artificial intelligence (Schank, 1975; Lehnert, 1978), and cognitive psychology (Mandler & Johnson, 1977; Stein & Glenn, 1979; Trabasso, Secco, & van den Broek, 1984), Trabasso and van den Broek (1985) have developed a general model for comprehension that identifies causal relations between events. The model represents events and their relations as causal networks and finds a critical, causal chain through the network that identifies the important events, states, and actions in the story.

Performance on various comprehension tasks such as question answering, priming, causal-chain events, and number of causal connections support the notion that readers, in an attempt to generate a coherent representation of a text, identify and infer causal relationships between the various components of the text (Liu, 1988). Direct causal connections between events constrain answers to questions and determine activation of one event by another (Suh, 1988). In addition, events that are on the causal path through the story and that have many connections are recalled and summarized more often and rated as more important than those that are dead ends or have few connections (Black & Bower, 1980). These findings support the psychological validity and importance of individual causal connections between pairs of events as well as of the representation of the overall structure of a narrative as a causal network. They also suggest that the Trabasso and van den Broek (1985) model for identifying the causal structure of a story captures important properties of readers' mental representation of a text.

Given this background, the following hypotheses were tested: (a) that Trabasso's causal analysis can be extended to the level of individual propositions, (b) that the propositions most useful for understanding the causal structure of a text are held in short-term memory during comprehension, (c) that both the amount of time a proposition spends in short-term memory and the number of connections this allows to other propositions influence its recall, and (d) that both referential and causal connections contribute to the coherence of a text.

METHOD

Subjects

Subjects for the study were 84 randomly selected fourth graders in three suburban public elementary schools. All subjects were native speakers of English.

Materials

Using methods, procedures, and analyses developed by Fletcher and Bloom (1988), eight short narrative texts were used in this research. Each consisted of 10 sentences and contained four embedded goals. The organization of these goals was systematically varied across texts. Specifically, four separate goal hierarchies (deep, shallow, unbalanced, and balanced) were generated and two texts were written to conform to each. The purpose of this manipulation was to produce variation in the effort required to hold the most subordinate goal in short-term memory. The more deeply embedded the goal structure, the greater the effort should become.

For example, consider the sample text in Table 1. It has been parsed into states using two basic rules. First, a sentence boundary always terminates a state. Second, a clause boundary terminates a state only if it separates clauses with different antecedents or consequences. Table 2 shows the propositional structure of the text and identifies the propositions that are essential to the causal role played by each state, that is, deleting a proposition would cause one or more causal connections to be lost.

The eight texts were organized into two sets. Each set was composed so that four of the texts in each set were used as fillers and four were used as targets. Texts that

Table 1

The Cowboy and the Horse

1. Once there was a cowboy
2. who wanted to get a very lazy horse into his barn.
3. He thought that if he could get his dog to bark,
4. that would scare the horse into the barn.
5. But the dog was lazy, too
6. and refused to bark.
7. The cowboy told his cat to scratch the dog,
8. thinking that this would cause him to bark.
9. Again, the cowboy's luck was bad,
10. because the cat would not help.
11. Next, the cowboy thought that if he made the cat angry, she might scratch the dog.
12. He took a large step forward
13. and stepped lightly on the cat's tail.
14. This made the cat angry,
15. causing her to scratch the dog.
16. The dog immediately began to bark.
17. The barking scared the horse so much
18. that he ran into the barn
19. and wouldn't leave for hours.

were used as fillers in the first set were used as targets in the second set and vice versa. Each set included one target text corresponding to each of the four goal structures. Subjects were randomly assigned to each text set. Test booklets were constructed that contained a page of instructions followed by the eight texts in the following sequence: two filler texts at the beginning, four target texts, and two filler texts at the end, followed by free-recall instructions for each of the four target texts. Each subject recalled the target texts in the same order in which they had been presented. Each text and each recall were on a separate page.

Procedure

The experiment consisted of two phases. During the first phase, each subject was instructed to read the eight texts once through at his or her normal reading speed, paying close attention because later he or she would be asked to recall them. In the second phase, each subject was given the titles from the four middle texts on separate 3 × 5 index cards and instructed to orally recall as much as they could remember from each text, using the exact words if possible. All recalls were audiotaped and then transcribed for scoring.

Scoring

The propositional content of each text was derived using procedures recommended by Bovair and Kieras (1985) and Turner and Greene (1978). The resulting list of propositions was then used to score subjects' free-recall protocols. A strict scoring

Table 2

Propositional Breakdown of The Cowboy and the Horse

		Causal State
Sentence 1	P1 (TIME P2 ONCE)	
	P2 (EXIST COWBOY)	1
	P3 (WANT COWBOY P4)	2
	P4 (GET INTO COWBOY HORSE BARN)	2
	P5 (MOD HORSE VERY LAZY)	2
	P6 (POSSESS COWBOY BARN)	
Sentence 2	P7 (THINK COWBOY P8)	3
	P8 (CONDITION P9 P12)	3
	P9 (CAUSE COWBOY P11)	3
	P10 (POSSESS COWBOY DOG)	
	P11 (BARK DOG)	3
	P12 (SCARE-INTO P11 HORSE BARN)	4
Sentence 3	P13 (CAUSE P14 P15)	
	P14 (IS A DOG LAZY)	5
	P15 (REFUSE DOG BARK)	6
Sentence 4	P16 (TELL COWBOY CAT P18)	7
	P17 (POSSESS COWBOY CAT)	
	P18 (SCRATCH CAT DOG)	7
	P19 (THINK COWBOY P20)	8
	P20 (CAUSE P18 P21)	8
	P21 (BARK DOG)	8
Sentence 5	P22 (TIME P23 ONCE-AGAIN)	
	P23 (POSSESS COWBOY LUCK)	9
	P24 (MOD LUCK BAD)	9
	P25 (REFUSE CAT COOPERATE)	10
Sentence 6	P26 (TIME P27 NEXT)	
	P27 (THINK COWBOY P28)	11
	P28 (CAUSE P29 P31)	11
	P29 (MAKE-ANGRY COWBOY CAT)	11
	P30 (MOD P31 POSSIBLE)	
	P31 (SCRATCH CAT DOG)	11
Sentence 7	P32 (TAKE COWBOY STEP)	12
	P33 (MOD STEP LARGE)	
	P34 (STEP-ON COWBOY TAIL)	13
	P35 (POSSESS CAT TAIL)	13
Sentence 8	P36 (MAKE-ANGRY P34 CAT)	14
	P37 (CAUSE P36 P38)	
	P38 (SCRATCH CAT DOG)	15
Sentence 9	P39 (TIME P40 IMMEDIATELY)	
	P40 (BEGIN DOG P41)	
	P41 (BARK DOG)	16
Sentence 10	P42 (SCARE P41 HORSE)	17
	P43 (SO MUCH P42)	17
	P44 (CAUSE P43 P46)	
	P45 (SET-MEMBERS P46 P49)	
	P46 (RAN-INTO HORSE BARN)	18
	P47 (NEG P48)	
	P48 (LEAVE HORSE BARN)	19
	P49 (DURATION-OF P47 HOURS)	19

criteria was adopted such that a subject was credited with recalling a proposition only if it or a close paraphrase of it was explicitly present in the recall protocol. Two independent raters scored each protocol. Overall agreement between raters was approximately 90% and all discrepancies were resolved through discussion. After the protocols were scored, the results were used to calculate the probability of recall for each proposition.

RESULTS

Effects of Causal Structure

Multiple regression analyses were carried out on the recall probabilities of each proposition in each text. The independent variables were: (a) whether or not a proposition was from a state on the causal chain (causal chain status), (b) the number of direct causal connections a proposition's state had with the other states in the text (causal connections possible), and (c) the number of direct referential connections a proposition had with the other propositions in the text (referential connections possible). Causal chain status was a categorical independent variable, with propositions from states on the causal chain receiving a score of 1, and propositions not on the causal chain receiving a score of 0. All analyses were conducted on the eight texts combined as well as independently. Because of the theoretical relatedness of the independent variables, a check of multicolinearity was conducted (Pedhazur, 1982). The results of this check indicated no multicolinearity.

As Table 3 indicates, causal connections possible, causal chain status, and referential connections possible each accounted for significant proportions of variance when entered into the analysis alone. In addition, both causal chain status and causal connections possible uniquely accounted for significant proportions of variance, whereas referential connections possible failed to account for any significant unique variance (Pedhazur, 1982). The interactions of causal chain status with both referential connections possible and causal connections possible were not significant. These results

Table 3

Proportions of Variance Accounted for by Causal Connections Possible, Causal Chain Status, and Referential Connections Possible

	R^2	
	Alone	Unique
	Full Model=.22**	
Causal Connections Possible	.17***	.02**
Causal Chain Status	.19***	.04**
Referential Connections Possible	.01*	.00

*$p<.05$, **$p<.01$, ***$p<.001$.

replicate the findings reported by Trabasso and van den Broek (1985), Fletcher and Bloom (1988), and Slater (1992). At the same time, they extend those findings to a more detailed level of analysis—individual propositions.

Effects of Short-Term Memory Allocation

Each of the short-term memory allocation strategies tested in the earlier studies (leading edge, current-state, or current state plus goal) was fit to the free-recall data in two steps. First, a minimum x^2 criterion was used to find the value of p which produces the best fit between predicted and observed recall probabilities in the equation $Pr(recall)=1-(1-p)^k$ for each combination strategy and text. This provides a measure of how time in short-term memory alone influences free recall. Next separate multiple regression analyses on the probability of recall were computed for each strategy, using three independent variables: (a) time in short-term memory, (b) the number of direct causal connections a propositions's state had with the other states as allowed by their co-occurrence in short-term memory (causal connections allowed), and (c) the number of direct referential connections a proposition had with other propositions as allowed by their co-occurrence in short-term memory (referential connections allowed). Independent variables were checked for multicolinearity. None was found. Again, the effects of text and its interactions with the other variables were nonsignificant, so all results are presented with the texts combined.

All three full models account for significant amounts of variance whereas the current-state model accounts for the most, .26, $p<.01$. Next is the current-state plus goal model, .22, $p<.001$, and then the leading-edge model, .16, $p<.001$. Within the current-state model, all three variables individually account for significant proportions of variance, time in short-term memory, .19, $p<.001$, causal connections allowed, .20, $p<.001$, and referential connections allowed, .02, $p<.05$. However, only time in short-term memory and causal connections allowed accounted for significant amounts of unique variance, .04, $p<.01$ and .06, $p<.01$, respectively.

Comparison of Structural and Processing Analyses

A direct comparison of the variables employed in the structural analyses (causal chain status, causal connections possible, and referential connections possible, with the variables employed in the processing analyses (time in short-term memory, causal connections allowed, and referential connections allowed). As Table 4 indicates, this analysis revealed that although both the structural and processing analysis variables alone account for significant amounts of variance, the processing analysis variables from the current-state model accounted for both more variance and a significant amount of unique variance.

DISCUSSION

Several important findings are derived from this study and confirm findings in earlier studies (Trabasso & van den Broek, 1985; Fletcher & Bloom, 1988). First, Trabasso and van den Broek's (1985) finding that causal chain status and number of

Table 4

Proportions of Variance Accounted for by Both the Structural Analysis and the Processing Analysis Variables

	R^2	
	Alone	Unique
Structural Analysis Variables	.22***	.02
Processing Analysis Variables	.26***	.05*

*$p<.05$, ***$p<.001$.

causal relations are related to the memorability of a text is supported. Second, findings support the notion that readers retain the endmost proposition(s) from the causal chain in short-term memory as they read. This is consistent with the general outline of the comprehension model proposed by Kintsch and van Dijk (1978). Third, findings support the contention that both the number of processing cycles that a proposition remains in short-term memory and the number of connections it forms to other propositions influence its memorability. Fourth, straightforward support from the data indicate that causal connections contribute to the coherence of a narrative text. But as in previous studies, the importance of referential connections remains less clear.

This study makes a contribution to the evolving line of inquiry which is attempting to integrate two approaches to the study of text comprehension and recall. The data support the claim that the goal of narrative comprehension is to discover a sequence of causal links that connect a text's opening to its final outcome. Additionally, the data support the view of short-term memory as a bottleneck in the comprehension process (Fletcher, 1981; van Dijk & Kintsch, 1983). It appears that readers use local causal relations to identify the propositions that are the most likely antecedents of the next sentence they read. Held in short-term memory, these propositions allow readers to discover a causal path through a text within the constraints imposed by short-term memory. It is interesting that goal information appears not to be held in short-term memory. A possible explanation is that maintaining active goal information creates too much short-term memory load. Instead, readers probably focus their attention on maintaining the local coherence of texts. Goals are probably reinstated whenever local coherence breaks down.

Future research needs to investigate the conditions under which long-term memory is searched for missing antecedents or consequences. In addition, future research needs to systematically extend and replicate these findings with longer and more ecologically valid texts.

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PATTERNS OF DEVELOPMENT IN NARRATIVE STORIES OF EMERGENT WRITERS

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Research generated during the last 15 years in the area of literacy development has influenced a paradigm shift in the theoretical framework for describing how young children learn to read and write. This emergent literacy framework (Strickland, 1989; Teale & Sulzby, 1986) suggests that literacy learning is a developmental process that emerges in young children as they have multiple opportunities to interact with print through contextually significant experiences.

In the area of writing development, this process had been well documented and has resulted in changes in instructional approaches to support and enhance children's growth in composing (Clay, 1975; Sulzby, 1990).

Although significant strides have been made in describing emergent writing development, attempts to assess this development have been extremely difficult. Researchers have independently identified emergent behaviors within certain features of the composing task (Clay, 1975; Genishi & Dyson, 1984), and have developed checklists or scales to reflect these behaviors (Sulzby, 1990). However, no one has yet developed a rating technique that documents the relationships among these features and their mutual influences on writing development. Additionally, no one has determined a method for aggregating behavioral trends.

A persistent problem in attempts to examine relationships among features and aggregate behavioral trends has been the consistent rate of variability observed in the performance of individual writers. Discoveries about the relationships between children's development in different feature areas of the composing task (Dyson, 1985; Sulzby, 1990), their behaviors and intentions while in the act of writing (Blazer, 1986; Sulzby, 1990), and the context in which writing is generated (Farr, 1984; Gundlach, 1989), have generally been regarded as influential factors in accounting for this variability. Such variability has refuted theoretical claims that would attempt to identify stage-like behaviors in writing development, making the task of assessing growth problematic.

The observation that emergent writers do not move in a clearly defined hierarchy of ordered stages, but negotiate between and among a "repertoire of understandings" (Sulzby, 1990, p. 85) has further suggested that even with contextual features such as setting and mode of discourse being constant, the choice and focus by children on a particular feature related to the writing task may mask their understanding of another concept, or may even produce a regression in a recently learned behavior (Clay, 1975;

Sulzby, 1990). Barnhart and Sulzby (1986) have documented evidence of recurring disparity between written products of children and their rereadings of those products, with regression appearing in the product as complexity of the intended compositional message increased. Such findings caution researchers to review less conventional forms of writing with a critical eye, and to consider both compositional products and compositional intentions in determining levels of conceptual development.

This study attempted to control certain environmental and contextual aspects such as mode of discourse, setting, and expectation so that multiple tasks being negotiated in the act of writing could be examined separately, perhaps providing insights into any relationships between and among these tasks and variability.

Specifically, this study attempted to identify and codify behavioral trends in the composing processes of early writers' narrative attempts in literate environment instructional settings. First, it attempted to analyze relationships between compositional products and compositional intentions of emergent writers within three feature task areas of narrative story: (a) quality of composition, (b) conventions of print, and (c) language level. Ranges of behaviors in ongoing story attempts were examined, as well as changes in behavioral responses over time. Second, it attempted to examine regressive patterns within behavioral responses to determine how development in one feature area of the writing task influenced development in other areas.

Research Design

The research methodology employed was descriptive and exploratory in nature, utilizing inductive and deductive elements of recursive qualitative analysis. This design was selected to attempt to provide a systematic approach to examining all aspects of emergent writers' narrative stories as constructs were generated and relationships established among them. It was also selected to build on the work of Clay (1975), Dyson (1985), Sulzby (1990), and others who have established frameworks and inventories related to some of the aspects of emergent writing behaviors.

Integration of qualitative procedures described by Goetz and LeCompte (1984) was utilized to analyze and interpret data. A constant comparative method of analysis was initially employed to create comprehensive taxonomies for each area of analysis being studied and to provide the basis from which data could later be reduced to categorical data. As content of data was analyzed, allowances for new categories or reorganizations were made. Then typology procedures were used to group taxonomies and categories and to identify core properties. As categories of behaviors were defined, enumerative strategies were used to code, tally and compare categories for evidence of recurrences, and to provide supportive evidence for existence and validity of behavioral trends.

To support conditions for achieving internal validity and reliability, an independent examiner was utilized, first to verify and refine categories identified, and later to achieve consistency in rating individual entries within the classification scheme. To refine categories, researcher and external coder each independently reviewed and classified a representative sample (10%) of data. To achieve consistency in rating individual student writing entries, a sample of data (10%) was randomly selected, with coders independently examining the entries and assigning levels to them. In each case, discrepancies in codings were resolved through a process of review and discussion. Descriptors were added where necessary.

Setting

The subjects being studied included 18 primary age students in kindergarten, first, and second grades selected from three elementary classrooms in an integrated, urban public school, having the following characteristics: heterogeneous grouping of students, socioeconomic diversity, and instructional settings reflective of literate environments. Class sizes of this kindergarten, first and second-grade population were 30, 31, 33, respectively.

Factors in determining the setting included the diversity of the population of the participating classrooms and the level of expertise and consistency in approach of the respective teachers.

As part of a desegregated school, these classrooms had racial and ethnic diversity. The proximity of the school to both a low-income housing project and to two universities attracted a student population with cultural and economic diversity as well. Additionally, students were grouped heterogeneously, with the range of prior educational experiences of children including preschool, day-care and entry to kindergarten directly from the home. It was anticipated that the diversity of this setting would provide a fuller range of composing behaviors than a less diverse setting. This setting might also allow for greater generalizability to less heterogeneous populations.

Teachers in these classrooms were experienced elementary educators, and all currently held views about literacy learning reflective of an emergent literacy perspective. For example, each had a daily-scheduled writing time block that included self-selected writing and sharing of individual writing pieces through a conferencing format, and each made available the opportunity for self-selected writing during a choice-time activity. Each teacher also provided regular opportunities for students to write for a variety of purposes and audiences and in a variety of content areas. All supported and encouraged student experimentation with written language, accepting all forms of writing, including scribble, pictures and, invented spellings. Each teacher additionally kept cumulative portfolios of individual students' work.

Subjects

A criterion sample of subjects (*N*=18), representative of the student population in each of three classrooms, including a kindergarten, first, and second grades, was selected to participate in the study.

In order to assure selection of a sample representative of the range of grades being studied, all children in the three participating classrooms were interviewed. Criteria for sample selection included grade level, gender, and level of understanding about writing and the printed code.

During the interviews, children were asked to respond to a series of structured questions that sought to identify their general attitudes about writing, their understanding about the permanence of writing, their understanding of the conventional code and their knowledge of revision. Children were also asked to select and reread two pieces of writing generated during the 2-week period prior to the interview. Analysis of writing samples sought to identify individual student's levels of understanding of narrative story composition and their ability to apply this understanding to the printed code.

Teachers of the three classroom populations were additionally asked to rank their students along a continuum of high, average, and low regarding overall level of understanding about writing and the printed code.

Data generated from interview responses and teacher rankings were used to create a range of scores at each grade level from low to high. From this ranking process, three subgroups were formed in each classroom. Two students (one boy and one girl) were then identified from each subgroup of high, average, and low who represented the mode score for that group. Mode scores were selected so as to avoid extreme scores at either end of the continuum.

Distribution of kindergarten, first-, and second-grade subjects included 6 children at each grade level, with mean ages of 5.3, 6.3, and 7.3, respectively. Subjects included 8 Caucasians and 10 African-Americans.

Data Collection

Data were collected weekly for a total of 25 weeks for each of the subjects in the criterion sample during individual interview conferences conducted during regularly scheduled writing periods.

During the interviews, subjects were asked to reread stories they had written during that week and to discuss their accompanying illustrations. The interview protocol used in the data collection process as well as the interview setting were designed to simulate the conferencing techniques used by the teachers in the participating classrooms being studied.

Data collected for analysis included actual writing products generated by primary-grade writers, audio-recordings and transcriptions of writers' rereadings and discussion of those products, transcription of responses to interview questions posed by the researcher, the recording of behaviors observed during the rereading act, and field notes of behaviors of writers during the rereading interview.

A total of 450 pieces of writing, accompanying illustrations, and audio-recordings of interviews were collected, duplicated, and transcribed during this time period (25 samples per student). Additionally, at four intervals during the data collection period, each student was asked to read for a second time a selected piece generated 6 weeks prior to that interval. This was done so as to establish the level of consistency of rereading over time and to compare product/intentions responses.

Triangulation of data from these multiple sources was incorporated so as to provide a comprehensive view of emergent writing behaviors that could be analyzed for trends.

Data Analysis

Student narrative story-writings were examined for evidence of patterns of growth and regression both in compositional product (as evidenced by analysis over time of written products) and in compositional intention (as evidenced by analysis of rereading transcripts and observed rereading behaviors). Within the unit of analysis, narrative story writing, this included examination of differences in compositional products and compositional intentions as they occurred within three feature areas of the composing task: (a) quality of composition, (b) conventions of print, and (c) language level.

In the feature area, quality of composition, individual feature tasks examined were story development, voice, decentering, and text/picture relationship. In the feature area, conventions of print, feature tasks included directionality/spacing, spelling, capitalization/punctuation, and speech/print match. In the feature area, language level, the feature task examined was language structure.

Table 1 provides a description of each task analyzed within the three task areas of narrative story.

For each area of analysis above, both products and intentions of writers for each compositional entry were examined and compared, so that important insights toward understanding individual levels of conceptualization might be observed. After compositional products (explicit written texts) were compared with intended compositional messages (rereadings of written texts), the relative amount of each in the total composition was determined. Each actual compositional entry being analyzed was then viewed as a combination of product and intention, with composed message equaling the sum of both.

RESULTS AND CONCLUSIONS

From the analysis of data, a range of codifiable composing behaviors was observed, both in individual writing entries analyzed weekly throughout the study, and in revisited entries selected at four 6-week intervals. Within each area of analysis, recurring patterns were observed that strongly suggested evidence of developmental trends.

Recurring patterns within the data were used to develop rating scales reflecting continua of behaviors for each area of analysis. (The one exception to this was the feature task, voice. Three general classifications of behaviors for this aspect of writing were identified: vividness, use of literary devices and style. However, no attempt was made to establish a hierarchical order for them since each was determined to have a similar status indicative of compositional experimentation.) Rating scales reflected actual observed emergent writing behaviors as they recurred throughout the data collection process. Descriptors reflecting levels of development on each scale are detailed in Table 2.

Rating scales developed through this process were then used to analyze, score, and record individual subject's entries so that points of variability and regression could be identified. For each child, overall trends in each feature task were tracked over time, as were trends in overall growth of the three composing areas.

Data analysis revealed patterns of variability within all subjects across the sample. Initially, a level of regression appeared to be related to the complexity of the compositional task. For example, if a child's intended text reflected a complex story idea, that child's written text appeared less conventional than a formerly observed written prod-

Table 1

Feature Task Areas of Narrative Story

QUALITY OF COMPOSITION

Story Development

Number of elements of story structure present in story: i.e., setting, character identification, theme/problem identification, plot episodes, problem resolution/goal attainment;

Degree to which story is organized and developed: i.e., evidence of fluency, logical progression and sequencing events, focus on theme, elaboration and description of theme, evidence of transitions, etc.

Voice

Evidence of compositional risks, use of variety of sentence structure and rhetorical modes;

Experimenting with new compositional behaviors;

Emergence of individual "style"

Decentering

Degree to which tense is stable and reflects narrative/story telling or expository mode;

Degree to which writer moves from interpersonal to intrapersonal dialogue, from self as audience to a "global" audience

Text/Picture Relationship

Degree to which story or theme is expressed in the text and/or in the pictures;

Degree to which the text and pictures contribute to understanding of story or theme

CONVENTIONS OF PRINT

Directionality/Spacing

Use of left to right progression; word spacing, line spacing, page spacing

Spelling

Level of understanding and use of a coding system and movement toward conventional orthography

Capitalization/Punctuation

Evidence of understanding of mechanics of punctuation and capitalization

Speech/Print Match

Degree of one-to-one correspondence between rereading of text and actual written form

LANGUAGE LEVEL

Language Structure

Level of linguistic organization used in text: i.e., pictures, words, phrases, sentences, paragraphs, theme, letter, paragraphed story, chapter, book, etc.;

Length of level of organization

Table 2

Levels of Development on Rating Scales

	Product/Intention Relationship	Quality of Composition		
Rating		*Story Development*	*Decentering*	*Text/Picture Relationship*
Level 1	Dialogue	Setting labeled	Picture-making	Picture as label
Level 2	Monologue/dialogue	Setting elaborated	Picture-describing	Picture as story
Level 3	Monologue	Story theme introduced	Story-making	Picture/text as labels
Level 4	Explicit/dialogue	Story theme developed	Emergent storytelling	Picture/text as details
Level 5	Explicit/monologue	Story developed	Intermediate storytelling	Picture/text as story idea
Level 6	Explicit	Story developed/resolved	Advanced storytelling	Picture/text as story

	Conventions of Print				Language Level
Rating	*Directionality/ Spacing*	*Spelling*	*Capitalization/ Punctuation*	*Speech/Print Match*	*Language Structure*
Level 1	No evidence	Scribble spelling	No evidence	No speech/print awareness	Picture/word
Level 2	Beginning	Letter spelling	Beginning	Speech/print awareness	Sentence
Level 3	Developing	Consonant spelling	Developing	Acknowledges print	Paragraph
Level 4	Emerging	Articulated spelling	Emerging	Attends to print	Paragraphs/theme
Level 5	Inconsistent	Visual/phonetic spelling	Inconsistent	Attends/self-corrects	One-page story
Level 6	Consistent	Transitional/standard spelling	Consistent	Reads conventionally	Multipage story

uct with a simpler idea. However, as variability within feature areas of the composing task over time were observed, highly individualized patterns were identified that appeared to link regression to the composing area in which a child chose to focus his/her efforts rather than on the complexity of the overall task.

There appeared to be a relationship between individual focus on one feature of the composing task and level of development in other features. Some children chose to concentrate on one or two features of the composing task and stayed with them for a long time, often at the expense of development in another area. Other children attempted to juggle several areas at once, occasionally regressing in one area as they attempted to give greater attention to another area, or as they attempted to recover from negotiating a particularly complex task.

With regard to individual progress, patterns of development appeared to reflect a shifting focus of attention from one aspect of the composing task to another, with refocusing efforts resulting in a subsequent regression in other areas. Although regression in one area seemed to be balanced by progression in another area, subsequent refocusing efforts were observed to result in development of sustained higher levels of conceptualization. This was evidenced both in higher levels of performance in the area of refocusing and in increasing ability to simultaneously negotiate other areas of focus. When children focused on one area of development, their sustained efforts over time seemed to result in a high degree of control over that particular area.

The following profiles of individual patterns of response of selected subjects illustrate this progressive/regressive trend.

Chris, a kindergarten subject, almost exclusively used pictures to convey his messages, often incorporating action and sequences of action in his illustrations. He used reorganized combinations of the letters in his name to provide the written text for his stories, representing his understanding that writing includes the use of a printed code. As he began to develop a more sophisticated understanding of the functions of that printed code, he began to focus on developing an invented code that reflected this level of conceptualization. This new focus on spelling and speech/print match resulted in regression in directionality and spacing behaviors formerly observed.

Blayre, a first-grade subject, was quite focused in early attempts on developing colorful, detailed drawings and on using print to illustrate these drawings. Written text usually consisted of two to three sentence units that labeled or described her pictures. Text was always neatly written and spaced, with conventional or nearly conventional spellings. As Blayre began to experiment with longer, multipaged stories in which character and plot development became more sophisticated, a regression in both spelling and spacing were observed, and pictures became less detailed. Eventually, as reconceptualization occurred, spelling and spacing regained their former more developed forms, with stories maintaining their richness. Drawings now were less frequent and less central to the message of the writing piece.

Jonathan, a second grade subject, maintained an interest in developing a richly detailed plot. His entries consistently revolved around a ongoing saga of a super hero, unabashedly adapted from tales of his favorite cartoon characters. His focus was on creating action-packed, cliff-hanging episodes, with print carrying the major role in conveying compositional message. Pictures served as illustrations to highlight particularly powerful scenes or to infer character traits or internal responses to initiating events. His highly focused attention to story development was paralleled by his lack of attention to spelling development, resulting in very little progress in this area for most of the year. To the independent reader, his invented coding system was difficult to decipher and was certainly more primitive than the codes of his second-grade peers. Yet, he could consistently and quite easily reread his own code, often referring the researcher back to a point in his last rereading interview where he might begin to assist her in recalling the context for the next entry.

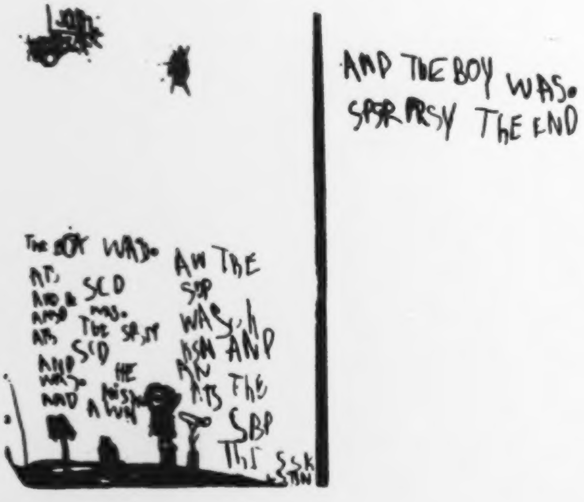
For Jonathan, negotiating this aspect of the conventions of print was neither important, nor necessary to convey his message. Interestingly, as he gained increasing control over story development during the latter part of the year, his spelling did progress and maintained this improved status for the duration of the study.

Each of the above examples illustrates overall patterns of growth, regressive behaviors and periods of conceptual reorganizations for individual writers over time. In each case, the selection of an area of focus by a child determined where growth could be observed and where regression could be predicted for that child.

The following analysis of selected writing entries of Becky, a kindergarten student, further illustrates this pattern of focusing/shifting focus/refocusing, and its role in the construction of an individual child's portrait of growth.

Most of Becky's writing efforts throughout the year were focused on conveying very simple story messages with invented forms of print. Her knowledge and understanding of the printed code as a permanent form of written expression were evident in her written texts and in her attempts to reread them. Her spelling patterns most frequently reflected a form of consonant spelling in which the beginning sounds of words were followed by random letter strings. From time to time, as she began to experiment with more sophisticated compositional ideas, her print would regress. Although a focus on quality of composition appeared to fluctuate in Becky's ongoing work, print always regained its status for her as a predominant area of focus throughout the year, with spelling and speech/print match showing sustained growth.

Figure 1 illustrates Becky's areas of variability within an entry. In this piece of writing, dated January 2, a focus on quality of composition dominates her effort, with attempts at constructing a decentered story and vivid setting, evident in her text. Story development is limited to describing character and setting with no plot beyond establishing an initiating event. In the area of conventions of print, attention appears to be focused on constructing print, with a high level of performance demonstrated in directionality and spacing. Spelling is limited and speech/print match is unstable, although initially attempted in her rereading. In this entry, low levels of performance in particular aspects of the composing task appear to be balanced by higher levels of performance in others. This suggests that focus on one area will affect performance in



Becky's rereading of text: Kindergarten entry dated January 2

"I writed 'The Boy'
"The boy was a... the... um... perfect, in his backyard. And he was being in his backyard because his mother let him. And the sun was shining that day. And he was on the grass. He was on the little stump and that was on the grass. And on the last stump was a crown. And on the first stump was a sling shot. And his name was John. And his house was in the backyard and the flowers were growing and the sun was shining. And the boy was very good, perfectly nice. The End."

Figure 1. Kindergarten entry for Becky: January 2.

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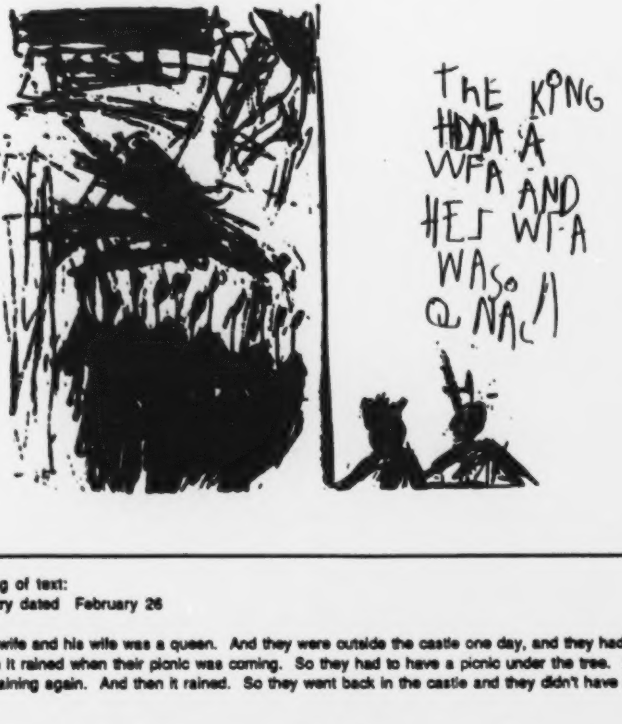
other areas, resulting in an uneven overall performance for an individual entry.

Comparison of this January piece with a later entry, illustrated in Figure 2, demonstrates variability between two pieces of writing. In this entry, dated February 26, Becky's attention to aspects of quality of composition continue to dominate her effort but story development is much more refined, with intended message reflecting a fully decentered narrative. Setting and plot episodes contribute to a fully developed and resolved one-page story. In the area of conventions of print, a more accurate match can be seen between speech and print in Becky's initial rereading, than in the January entry. Length of printed text is much briefer, however. Spelling maintains its former status, but directionality and spacing have regressed. In comparing these two entries, variability of performance appears to be related to both feature area of focus within a piece of writing and shifting area of focus from piece to piece. Resulting regression seems to be balanced by a corresponding progression in the new area of focus.

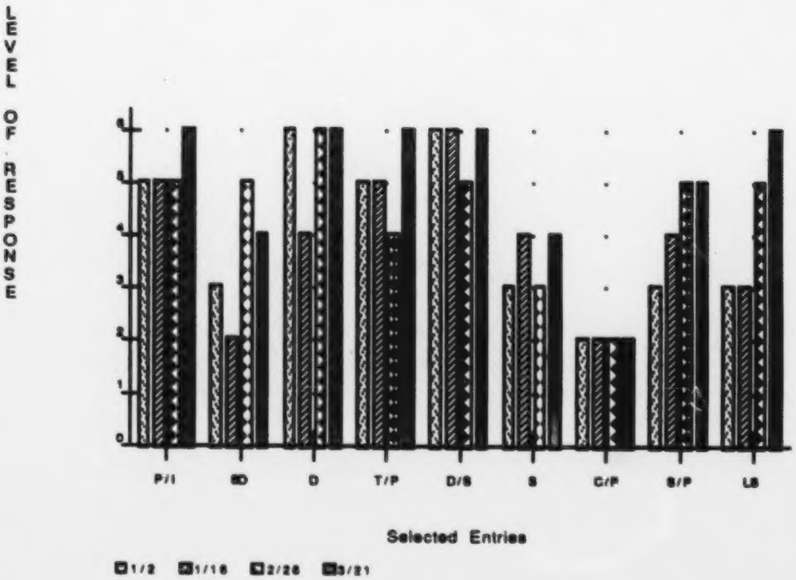
The graph in Figure 3 compares related composing tasks within several selected entries over time. Refocusing efforts and increased control can be observed as Becky's areas of focus change from entry to entry. Becky's growth appears to be reflective of a shifting focus of attention from features of quality of composition to features of conventions of print. This pattern of shifting emphasis involves a continuing refocusing



Becky's rereading of text:
Kindergarten entry dated February 26

"The king had a wife and his wife was a queen. And they were outside the castle one day, and they had a picnic. And then it rained when their picnic was coming. So they had to have a picnic under the tree. And then it stopped raining again. And then it rained. So they went back in the castle and they didn't have a picnic."

Figure 2. Kindergarten entry for Becky: February 26.



Key: **P/I:** **Product/Intention Relationship**

Quality of Composition
SD: Story Development
D: Decentering
T/P: Text/Picture Relationship

Conventions of Print
D/S: Directionality/Spacing
S: Spelling
C/P: Capitalization/Punctuation
S/P: Speech/Print Match

Language Level
LS: Language Structure

Note. Level 1 behaviors indicates least conventional reponse. Level 6 indicates most conventional response.

Figure 3. Becky's variable performance over time.

on selected aspects of conventions of print such as spelling development and speech/print match. Refocusing efforts appear to result in development of sustained higher levels of performance in those areas. Also apparent is an increasing ability to simultaneously negotiate other aspects of quality of composition such as story development and decentering, and to use more advanced language structures, such as a multipage story. Just as refocused areas show increased gains in performance, levels of regression decrease.

In summary, Becky's overall performance illustrates a highly idiosyncratic yet progressive path of development, with similar trends being observed in all subjects in the sample. The notion that children should progress in all areas of production appeared to be refuted by these children's behaviors, suggesting that self-selection of feature task focus in a composing attempt yields a more thorough understanding of that aspect of the writing process. It further suggests that choice in task negotiation may result in greater control over a particular aspect of the composing task than when specific tasks are imposed by others. The pattern observed in which shifting of area of focus was followed by a refocusing gain, additionally suggests that regression may be a necessary part of the process of reorganized experience and conceptual growth.

CONCLUSIONS AND IMPLICATIONS

The relationship between self-selection of task and emergent writing development as suggested by this study provides insights into understanding and assessing individual progression and behavioral trends among groups. This relationship is particularly important as it influences successful negotiation of tasks, and higher levels of conceptualization toward sustained use of conventional written discourse. This finding indicates that assessment of writing which is not removed from the context in which it was developed, may serve to more adequately describe growth, and to accelerate it as well.

The interactive relationship between instruction and assessment suggests a redefining of assessment as it pertains to emergent writing. This may require a rethinking on the part of test-makers, educators, and policy-makers regarding the content, context, administration, and analysis of assessment measures as they are currently being defined. This includes reexamining the current use of moment-in-time sampling assessment procedures such as decontextualized group-administered topic prompts that do not take into consideration the influences of individual progressive tracks. It also suggests a need to reconsider the reporting of achievement data based on level of conformity to a set of established standards or on status relative to age or grade-level norms. Additionally, it suggests interpreting individual progress in terms of frequency patterns of behaviors rather than on composite averaging of scores.

In the findings of this study, acknowledgement of the focusing/refocusing efforts of individual subjects was observed to be critical to understanding individual progressive tracks in writing, and in identifying periods of reconceptualization. This phenomenon needs to be further explored with larger samples of similar populations and with other populations. Not only should this be studied as it pertains to writing development, but also as it influences development in other curricular areas of schooling. The insights to be gained regarding the role of variability and regression and its relationship to current testing and evaluation practices could have dramatic consequences for teaching, learning, and assessment.

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CHILDREN'S RETENTION OF WORD SPELLINGS IN RELATION TO READING ABILITY

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Even in schools where formal spelling instruction is offered and a generous amount of time is devoted to practicing spelling words, classrooms teachers sometimes notice that children learn to spell words for weekly spelling tests but do not consistently apply that knowledge in their written work. Indeed, some children appear to forget the spellings of words that seem to have been mastered earlier.

Spelling is of interest because it affords objective evidence of the level of mastery of the orthography, and because analysis of attempted spellings may also give insight into the development of decoding processes in reading. Word reading and spelling abilities tend to remain highly correlated, even beyond the early grades. Their close association is to be expected, given that both abilities draw on a common knowledge base.

In as much as alphabetic writing is keyed to the phonological structure of language, it is relevant to note that phonological awareness is important both for learning to read and learning to spell (Bradley & Bryant, 1983; Rohl & Tunmer, 1988). In addition to the ability to analyze spoken words phonemically, mastery of reading and spelling requires knowledge of grapheme-phoneme correspondences and retention in long-term memory of the spellings of specific words (Ehri, 1989; Tierney, Caplan, Ehri, Healy, & Hurdlow, 1989). As Stanovich (1992) suggests, individual differences in the ability to form and store accurate orthographic representations may account for the significant individual differences in reading (and we would add spelling) over and above those accounted for by phonological segmentation ability alone.

Why might some children be less proficient at developing stable orthographic representations? One likely possibility is that poorer readers and spellers seem not to fully apprehend either the regularities or the idiosyncrasies in the spellings of printed words, and accordingly do not benefit as much as better readers from exposure to those words in reading. For example, the word recognition errors of beginning and older readers frequently reflect guesses based mainly on word beginnings, with little regard for the internal letters (Fowler, Liberman, & Shankweiler, 1977)

This suggestion might be tested by examining children's acquisition of word spellings in classrooms where formal instruction in written spelling is offered. The requirement to practice the spelling of a word encourages the learner to focus on all of its component letters. We had the opportunity to examine children's spelling performance in just such classrooms. Because we were interested to see if early word reading and spelling performance had implications for long-term achievement, we examined children's ability to retain spellings of a small sample of words for a relatively short period of time to find out if observed differences would presage performance over the long term. Thus we checked their progress in reading and spelling four years later.

The retention rate for spelling words taught in spelling lessons has not often been studied, yet it would seem to have genuine implications for understanding the conditions that promote both spelling and reading mastery. In the present study these questions were addressed: Is the ability to learn and retain spellings related to word reading ability? Can word reading and spelling achievement in Grade 7 be predicted from differences in short- and long-term learning in Grade 3?

METHOD

Subjects

Subjects were 72 children in four third-grade classes in a relatively affluent suburban school district in the Northeast. Two classes in each of two elementary schools participated. In this school district formal spelling instruction was initiated at the start of the second-grade year. Many opportunities for spontaneous writing were offered and children were encouraged to attempt spellings by "sounding out" the target words. Although the two schools employed different commercially published spelling programs, both programs tended to group words by spelling patterns and rules. In each school the spelling curriculum was designed to complement the code-emphasis reading program, which was fairly uniform throughout the school district.

Typically, the children spent 1 week studying each unit in the spelling workbook. A sample unit consisted of words containing the *-ee* (as in *sweet*) or *-ea* (as in *dream*) spelling patterns. Although most of the words included in the workbook had regular spellings, some additional words which incorporated irregular spelling patterns were taught as exceptions (e.g., *busy*).

Materials and Procedure

The children were initially tested on word reading and spelling in October of their third-grade year. The *word reading test* consisted of 60 single-syllable, low-frequency real words not present in either the basal reading series or the spelling series used in the first and second grades. In contrast, the spelling test items were selected to measure retention of words which had been studied as part of the spelling curriculum. The *first spelling review test* included 40 words taught in both spelling series as part of the second-grade curriculum (half were phonetically regular and half were exception words). Comprehension test scores were also available to us. Scores from the *reading comprehension* and *listening comprehension* subtests of the Educational Records Bureau Comprehensive Testing Program II were obtained from school records. These tests had also been administered throughout the school district in October.

The children participated in the second phase of this study in June of their third-grade year, by which time they were highly familiar with the weekly classroom spelling assessment procedure. They received their usual *end-of-week spelling test* administered by the classroom teacher, which required production of written spellings of dictated words. Teachers graded the tests and circled misspelled words. The teacher then wrote the standard spelling above each misspelled word, thereby providing corrective feedback. Since the number of items on the teacher's end-of-week test varied by classroom and spelling program (from 11 to 14), scores used in this analysis were converted to percentages. The children were retested 1 week later on the words that they had studied. They were not informed in advance that they would be tested again on previously studied words. A second supplementary 40-item test, given last, sampled words studied throughout the third-grade year (the *second spelling review test*). Thus, data from two spelling review tests (converted to percentage scores)—one at the beginning of the year, and one at the end of the year—were available on the third graders, in addition to the end-of-week spelling test and retest results.

Each of the supplementary tests was administered as follows: a word was pronounced, repeated in a sentence and then pronounced a third time. The child's task was to write the target word. Children were encouraged to write as much of the word as they could and to attempt every word.

The final phase of the study was conducted at the end of the subjects' seventh-grade year. At that time, 63 of the original 72 subjects were still enrolled in the school system. They received measures of *real word identification* and *nonword decoding* using subtests of the Woodcock-Johnson Psychoeducational Battery–Revised (Woodcock & Johnson, 1989) and *spelling* using the Wide Range Achievement Test–Revised (Jastak & Jastak, 1984).

RESULTS AND DISCUSSION

Intercorrelations among the measures are shown in Table 1. As can be seen, listening comprehension is conspicuous for its low, mainly nonsignificant correlations with the reading and spelling measures. It emerges here, as in other studies, as an ability that is largely separate from spelling and decoding skills in reading (Dreyer & Katz, 1992; Hoover & Gough, 1990). In contrast, the *reading* comprehension measure is significantly correlated with word reading and spelling, as are most of the word reading and spelling measures with each other. The consistent, robust correlations among measures of reading ability and spelling ability are in agreement with the findings of others (e.g., Perfetti, 1985). Thus, the data of the present study provide strong confirmation of the interconnectedness of the processes underlying word reading and spelling. There was a small but significant correlation between the retest on the end-of-week spelling list and spelling performance in the seventh grade. Not surprisingly, considering the small sample of words on the end-of-week test, this correla-

Table 1

Intercorrelations Among Measures

Measure	1	2	3	4	5	6	7	8	9	10
Third Grade										
1. Word Reading		.21	.62**	.65**	.59**	.65**	.71**	.72**	.64**	.61**
2. Listening Comprehension			.24*	.02	.13	.08	.02	.26*	.08	.03
3. Reading Comprehension				.45**	.43**	.47**	.51**	.58**	.52**	.57**
4. Spelling Review Test 1					.38**	.47**	.73**	.38**	.50**	.64**
5. End-of-week Spelling Test						.77**	.67**	.09	.09	.13
6. Retest on End-of-week List							.17	.19	.23	.34*
7. Spelling Review Test 2								.42**	.46**	.67**
Seventh Grade Follow-up										
8. W-J Reading Real Words									.63**	.69**
9. W-J Nonword Decoding										.67**
10. WRAT-R Spelling										

*$p<.05$, **$p<.01$.

tion is modest in comparison to the correlations based on the review tests.

It is noteworthy that the other time-span correlations in this data set are virtually as high as the correlations among concurrent measures. In addition, it seems that we can predict later spelling achievement from earlier reading approximately as well as we can from earlier spelling—thus the spelling and reading measures are almost interchangeable for predictive purposes.

The data set was further examined in several ways. First, in order to explore differences in spelling ability between children who were relatively skilled at word reading and those who were relatively less skilled, children who performed at one-half standard deviation or more above the mean and one-half standard deviation or more below the mean for the entire subject population on third-grade word reading measure were designated as above-average and below-average word readers.

As can be seen in Table 2, the above-average and below-average word readers differed significantly on all spelling measures and other reading measures. However, they did not differ on listening comprehension, indicating that the groups were well matched in general language ability. With regard to the end-of-week spelling test it will be noted that the two groups differed significantly in accuracy on that test, $t(42)=2.89, p<.01$. The below-average word readers initially spelled 18% fewer words correctly. Both groups showed a decline in accuracy after 1 week's time. Although the below-average readers' loss was greater, the difference in amount of forgetting was not significant.

To examine the precursors of spelling ability in these children at seventh-grade level, the sample was again divided into two groups, including all subjects whose performance was above and below the mean on the WRAT-R spelling test to form above-average and below-average speller groups. (This criterion was selected to ensure that there would be enough subjects for longitudinal comparison.) Given the interrelatedness of the processes being studied, it is not surprising that there was

Table 2

Means (and Standard Deviations) of Groups Divided by Third-Grade Word Reading Scores

Measure	Above-average Decoders	Below-average Decoders	*t*	*p*
Third Grade, October	*n*=26	*n*=26		
Word Reading* (Max.=60)	57.96 (1.45)	41.68 (6.68)	11.90	.0001
Listening Comprehension (Max.=40)	28.65 (4.28)	26.88 (5.42)	1.29	.203
Reading Comprehension (Max.=40)	32.73 (3.87)	22.92 (8.07)	5.50	.0001
Spelling Review Test 1	86.73 (10.6)	63.27 (13.9)	6.86	.0001
Third Grade, June				
End-of-week Spelling Test	92.75 (10.3)	74.20 (28.3)	2.89	.008
Retest on End-of-week List	88.64 (12.3)	67.79 (22.9)	3.76	.001
Spelling Review Test 2	90.83 (7.90)	68.55 (16.3)	5.33	.0001
Seventh-Grade Follow-up	*n*=19	*n*=20		
W-J Reading Real Words (Max.=57)	52.42 (2.31)	48.00 (2.23)	5.98	.0001
W-J Nonword Decoding (Max.=30)	26.15 (2.75)	20.73 (2.49)	6.36	.0001
WRAT-R Spelling (Max.=46)	32.73 (5.10)	24.56 (4.71)	5.07	.0001

*The basis for subgroup formation.

considerable overlap, but the makeup of the two spelling groups was not identical to that of the groups separated on word reading ability.

Seventeen of the 26 above-average readers at third-grade level were also above-average spellers when they were in the seventh grade, whereas only 3 of the third-grade below-average readers were categorized as above average in spelling in seventh grade. Of the 26 below-average readers at third grade, 12 were also in the seventh-grade below-average spelling sample. Five additional subjects in this seventh-grade below-average speller group were drawn from the group that were above-average in reading words at third grade, so we find evidence of a partial dissociation in these abilities as Frith (1980) did. Others (whose performance was near the mean on the word reading measure) had not been included in either group in the previous analysis. Thus, although word reading and spelling abilities are highly related, they are not identical. Each presents its own special problems (Shankweiler & Lundquist, 1993).

The profile of performance of seventh-grade good and poor spellers on the full set of measures is very similar to that of the groups separated on third-grade word reading ability. However, we observe that accuracy on the end-of-week spelling test did not differ significantly, whereas accuracy on the retest 1 week later showed a significant advantage to the good spellers, $t(44)=2.41$, $p<.05$ (see Table 3). A Difference Score (end-of-week test score minus the retest score) was also significant, $t(44)=-2.63$, $p<.05$. Thus it is noteworthy that the measure reflecting retention, not the initial performance level, was predictive of long-term mastery.

A measure of retention of about a dozen words for 1 week is insufficient to form a basis for long-term prediction, but a trend is present: Those students who performed best at retest also seemed to be those who best incorporated spelling patterns as part of their permanent knowledge. We are now pursuing this lead with larger samples of spelling words and larger groups of children.

In summary, the observed differences in learning word spellings are related not only to later spelling achievement but also to later reading ability. The better spellers tend also to be the better word readers, that is, they are more facile with the alphabetic code *and* they also seem to acquire word-specific knowledge more readily. Even though

Table 3

Follow-up Scores: Means (and Standard Deviations) of Groups Divided by Seventh-Grade Spelling Achievement

Measure	Above-average Decoders	Below-average Decoders	*t*	*p*
Third Grade, October	*n*=30	*n*=26		
Word Reading* (Max.=60)	55.43 (4.46)	49.73 (6.10)	4.03	.0001
Listening Comprehension (Max.=40)	27.66 (4.82)	27.69 (3.83)	.02	.983
Reading Comprehension (Max.=40)	31.26 (5.34)	24.46 (6.45)	4.32	.0001
Spelling Review Test 1	87.00 (.08)	69.81 (16.8)	4.77	.0001
Third Grade, June				
End-of-week Spelling Test	89.16 (11.2)	87.74 (12.1)	.41	.681
Retest on End-of-week List	87.54 (11.2)	77.96 (15.4)	2.41	.020
Spelling Review Test 2	90.35 (9.39)	75.29 (14.8)	3.79	.001
Seventh-Grade Follow-up	*n*=26	*n*=24		
W-J Reading Real Words (Max.=57)	51.81 (2.04)	48.92 (2.60)	4.39	.0001
W-J Nonword Decoding (Max.=30)	25.73 (2.36)	21.87 (3.58)	4.53	.0001
WRAT-R Spelling* (Max.=46)	33.80 (3.40)	24.08 (3.65)	10.31	.0001

*The basis for subgroup formation.

both are strongly related, word reading and spelling do not make identical demands upon the learner. Although phonological awareness is necessary for both reading and spelling, producing the written form of a word requires that a particular spelling be generated, not just a plausible one. The abilities that distinguish good and poor spellers are yet to be completely identified; on the whole, general measures of visual memory have not proven to be useful predictors (Fischer, Shankweiler, & Liberman, 1985).

The findings of this study have implications for instruction. The most general implication is the following: it makes sense to teach reading and spelling in a coordinated way, so that students have a full opportunity to see the relationships between these two activities. The fact that in this study the less successful achievers in third grade also tend to be the less successful achievers on both abilities in seventh grade emphasizes the importance of providing early assistance. Stanovich (1986) has eloquently documented the cascading consequences of early failure to acquire basic orthographic skills.

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VOICING IN SPANISH TO ENGLISH SPELLING KNOWLEDGE TRANSFER

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Early research into young children's spelling (Henderson, Estes, & Stonecash, 1972) suggested that misspellings reflect knowledge of word form. That work was advanced when Read (1971) documented the articulatory basis of children's misspellings. This was followed by research into the developmental sequence of spelling (Gentry, 1982). Research with speakers of languages other than English (Gill, 1979; Temple, 1978) has also found an articulatory basis for spelling.

Children in Bilingual Education programs who use Spanish-influenced English are likely to produce spellings that reflect differences in pronunciation because of cross-linguistic transfer. Investigations of primary graders (Zutell & Allen, 1988) and college freshmen (Terrebone, 1973) have shown that Spanish-speakers perceive English sounds as if they are Spanish and spell those sounds in Spanish-like ways. Many of the errors these students produced resulted from confusing voiced (sound uttered with vocal cord vibration) and unvoiced consonants.

Most English consonants are paired with another that differs only in voicedness, and this distinguishes a great many pairs of words. Distinguishing words based on voicedness occurs considerably less often in Spanish (Ching, 1976). Thus, consonants with similar articulation but different voicedness (*p* and *b*, *t* and *d*, *k* and *q*, *f* and *v*, *s* and *z*, *ch* and *j*) should be confusing to primary-grade Spanish children who are learning English as they have had less need to make this discrimination.

This study of Spanish-speaking students in a Transitional Bilingual Education program addressed two questions: (a) Which misspellings can be attributed to differences of voicedness between English and Spanish? (b) Can the voicedness be used to identify a progression of spelling strategies that characterize Spanish-influenced English spelling?

METHOD

Subjects

Second- and third-grade children in a Transitional Bilingual Education program in a Chicago suburb were subjects if they had received reading and writing instruction solely in Spanish for at least 1 year and were just beginning to receive instruction in English at the time the study began. Forty-one second-graders and 6 others who were the lowest achievers in the third grade were selected.

The children resided in one subdivision populated almost entirely by Spanish speakers. Almost half were born in Mexico (43%) and the rest were from the United States. Most parents (98%) were born in Mexico with most emigrating from the state of Durango. Spanish is the primary language of these homes.

Measures

The study reported here is part of a larger project (Ferroli, 1990) concerned with the topic of cross-linguistic transfer of literacy skill. Reading achievement and oral language proficiency measures in English and Spanish were used in addition to the spelling variables below.

Spelling tests. Spelling proficiency in English and Spanish was determined through the use of 18-word developmental spelling tests (DSTs) in which each word is pronounced, used in a sentence, and repeated (e.g., "FUERTE. Mi papá es *fuerte.* FUERTE."). Words and scoring system for the English DST were taken from Morris and Perney (1984) and Ferroli and Shanahan (1987). A procedure for using a Spanish DST has been validated (Ferroli & Krajenta, 1993) and was used in this study. Subjects were pretested with the two DSTs in November. The English DST was readministered during the last week of April.

Spelling samples. Weekly spelling samples were collected over 20 weeks in order to determine how the children changed in their renderings of various spelling features. In addition to regular spelling words which the children could study and practice, five new words which incorporated key spelling features were added to the weekly spelling tests. The children were put at ease about being tested on words they had not studied. They were reminded frequently that the extra words did not affect their grades, but they were strongly encouraged to do the best that they could.

RESULTS

To determine how sounds transferred from Spanish to English, individual phonemes were isolated within words. For example, /f/ occurred in the words *stuff, flag, freeze, fork, roof, stuff,* and *half* in Weeks 1, 3, 5, 6, 15, 16, and 20, respectively. For each occurrence, the various spellings produced were tallied and then summed. Table 1 shows the results for the consonant phonemes emphasized.

Consonant knowledge often transferred. What these children knew in Spanish helped them in English. However, some errors resulted from use of a letter that differed from the correct one only in voicedness. Use of a voiceless spelling where a voiced one is called for is interpreted as Spanish-influenced and provides the basis for the following analyses.

Table 1

Percent of Correct Spellings and Common Substitutions

Feature	Example	%	Common Substitutions
S final as /z/	year*s*	98	
F initial	*f*lag	98	
S final as /s/	pa*ss*	94	
P medial	zi*pp*er	94	
B initial	*b*ug	88	V=2, D=6
S blends	*st*uff	86	vowel + d=7
F final	stu*ff*	70	V=12
K final	too*k*	63	
DR /ʤr/	*dr*aw	57	TR=13
J initial	*j*aw	49	Y=15, G=12
V initial	*v*oice	44	B=38
B medial	gra*bb*ed	28	omit=50
Z	free*z*e	24	S=68
V medial	ser*v*es	24	omit=24, B=13, F=29
V final	sa*v*e	13	F=71
CH	*ch*ur*ch*	49	SH=19, H=8
SH	*sh*irts	44	CH=32, H=15
TH as /ð/	*th*is	42	D=42
TH as/θ/	*th*ird	22	D=22, F=9, T=20
S as /ʒ/	mea*s*ure	2	CH=36, SH=34, H=12, J=7

A Hierarchy of Spelling Strategies

The first analysis begins to point out a hierarchy of error types. The exemplar /ʒ/ as in *measure* and *pleasure* is difficult for English speakers and does not exist in Spanish. Predictably, it had the lowest number of correct spellings of any feature. The most frequent misspellings, in order, were: CH, SH, H, and J. The average DST scores of students who produced misspellings for the word *pleasure* are shown in Table 2.

Table 2

Mean DST Scores for Four Types of Errors on /ʒ/ in Pleasure

		Pretests	
Spellers	*n*	English	Spanish
J Users	4	39.0	75.0
SH Users	12	36.3	74.3
CH Users	15	35.9	73.7
H Users	5	31.6	67.4

There were small differences between mean scores, and with the small numbers of subjects, these did not reach significance. However, rank order of DST mean scores for the groups of misspellings is the same in both languages, and it suggests a sequence of four spelling strategies compatible with the linguistic articulatory framework. The misspellings of /ž/ are explained in terms of place of articulation and voicing. The order shows how each strategy is one step further removed from correctness: Strategy 4—the J users spelled a sound, /ǰ/, that is voiced (as is the target sound, /ž/) and produced in the same place of articulation; Strategy 3—the SH users spelled a sound that is voiceless but has the same place of articulation; Strategy 2—the CH users spelled a sound that is voiceless and near to the target sound in place of articulation; Strategy 1—the H users chose a letter whose name includes a sound, /č/, that is voiceless and near in place of articulation. If this hierarchy of strategies is confirmed by other analyses, it can be concluded that, beyond moving from a letter-name to a letter-sound strategy, these children must also come to terms with voicing before arriving at correct English spellings.

A Letter-Sound Strategy Transfers

The second analysis examined how students attempted to represent a sound, /ǰ/, that does not occur in Spanish. The most frequent misspelling used Y. Use of Y cannot result from a letter-*name* strategy as the name of the letter *y* in English /waI/ or Spanish /igriega/ does not include /ǰ/. It seems likely that Y is chosen on a letter-*sound* basis because in Spanish it can represent a sound similar to /ǰ/ as in *yo* in some dialects. In contrast, using H for /ǰ/ must be a letter-name strategy. In both languages the letter-*name* (English /eč/ and Spanish /ače/) includes /č/, an unvoiced alveolar fricative, whereas /ǰ/ is a voiced alveolar fricative. Although H was used to spell /ǰ/ only 6% of the time, it provided a useful comparison as it must be a letter-name spelling, whereas Y must be a letter-sound strategy.

The comparison was made from Week 2 where the word *jaw* elicited six H spellings and six Y spellings. The Y-spellers were superior to the H-spellers on the Spanish DST pretest, $t=2.48$, $p<.05$. The difference on the English DST with this small sample was not significant, $t=2.11$, $p=.06$, although the mean English DST pretest score of the Y-spellers far surpassed that of the H-spellers (43.3 vs. 24.7). The child who used the more advanced strategy seemed to have done so in both languages—first in Spanish and then in English.

A Voicing Error Is Nearly Correct

Another illustration shows that a Spanish-like spelling that differs only in voicedness is nearer to correct than spelling by letter-names in English. In the attempts at words that began with *dr,* which when pronounced is /ǰr/, correct spellings were produced 57% of the time across Weeks 2 (*dropped*), 8 (*draw*), and 18 (*dropped*). The most frequent misspelling was TR, pronounced /čr/ in English. It differs form /ǰr/ solely in voicing and is interpreted as a Spanish-like spelling of *dr.* Spelling *dr* with G or J is viewed as an English-like spelling. In English one can arrive at /ǰ/ by using the names or the sounds of G or J. In Spanish, neither the names nor the sounds would yield /ǰ/. Therefore, although some children might have been using a letter-name strategy and others a letter-sound strategy, all were using English spelling.

Each use of G, J, or TR for *dr* was tracked across weeks to determine which of these immediately preceded correct spelling. Nine students used G or J for *dr.* The next time a *dr* word was presented these students spelled with J or G four times, TR twice, DR twice, and one other. Overall, there was little movement toward correctness.

A sign test was used to determine if there was progressive movement toward correctness among students who used TR. Later spellings of J or G were assigned a minus; repeating TR or using some other spelling was assigned zero and indicated no change; and a later spelling of DR was assigned a plus. On the next *dr* word, 1 of the TR-users spelled with G, 4 repeated TR, 15 correctly used DR following their use of TR, and there were 4 others. There was clear movement from a TR spelling to a correct spelling at the next opportunity, $z=2.46$, $p<.01$. *Dr* is a late emerging speech sound. Students who spelled it with correct English voicing but a letter-name strategy made little progress. Students who spelled it with the more sophisticated letter-sound strategy in Spanish, but who made errors of voicing, progressed rapidly.

DISCUSSION

Spelling by letter names (e.g., *empty*=MT) is one of the first strategies that monolingual English speakers employ. By the end of second grade, most children abandon this in favor of more informed strategies based on letter sounds and patterns of letters. These analyses lead to the conclusion that children do not regress in their understanding of spelling when they begin to spell in a second language. The opposite seems to be the case. Whatever conceptual understanding they had of the spelling system in their native language seems to be applied to the new language. Some of the errors they produced can be attributed to the fact that in Spanish it is not necessary to attend to differences in voicing. In English it is, and this dimension of spelling appears to have remained problematic.

Two decades of research have used a linguistic articulatory framework for interpreting children's invented spellings. This study shows the importance of expanding that framework to include both place of articulation and voicing together to help us understand Spanish-influenced English misspellings.

A sequence of four spelling strategies was identified. The importance of this sequence is twofold. First, a learner can move from a letter name to a letter sound to a correct place of articulation strategy while still spelling in Spanish. Thus, students in Bilingual Education programs that employ a Native Literacy Approach might profit more from first learning to spell well in Spanish than from acquiring only a moderate degree of English spelling skill. Second, the most sophisticated strategy involves learners' being sensitive to the importance of voicing in discriminating between pairs of phonemes. Acquiring this strategy is not likely to occur when instruction is in Spanish. English spelling instruction could begin with those items that most readily transfer from Spanish to English. From there attention can go to studying how to spell sounds that are alike in terms of place of articulation and different in voicedness. Thus, /b/ versus /v/ is not the important contrast; rather /b/ versus /p/ and /v/ versus

/f/ are sounds that differ in voicedness. In like fashion, /s/ versus /z/, /č/ versus /ǰ/, /k/ versus /g/, and /š/ versus /ž/ differ in voicedness, also. Such an approach might help Spanish speaking students to learn how words are distinguished in English.

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THE ROLES OF PARTICULAR CULTURAL EXEMPLARS AND ABSTRACT CULTURAL SCHEMATA IN THE ACQUISITION AND USE OF GENRE KNOWLEDGE

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Although a good deal of research has been conducted during the past few decades on the perceptual and symbolic dimensions of writing development in young children (e.g., Clay, 1975; Ferreiro & Teberosky, 1982; Sulzby, Barnhart, & Hieshima, 1989), much less research has been devoted to understanding the more discursive and cultural dimensions of writing development such as *genre*. However, these dimensions are beginning to receive more attention (e.g., Dyson, 1989; Hicks, 1990; Hudson, 1986; Langer, 1985; Newkirk, 1989; Pappas, 1993). In this article I report results from a developmental investigation of the roles of particular cultural exemplars and more abstract cultural schemata in young children's developing understanding of different discourse genres and genre conventions. Thus, this investigation builds on and extends current knowledge within a relatively new but increasingly important area of literacy research.

BACKGROUND AND PURPOSE

Theory and research in developmental psychology have suggested a U-shaped function in the development of a variety of concepts and abilities, including grammar (Brown, 1973; Pinker, 1984), metaphoric understanding (Gardner & Winner, 1982; Winner, 1988), and logico-mathematical knowledge (Karmiloff-Smith & Inhelder, 1974–75). Across all of these domains, change has been characterized by correct (or high-level) performance in the beginning phase (phase 1) and the end phase (phase 3) of a developmental process with incorrect (or low-level) performance in the middle phase (phase 2). The most plausible explanation for this developmental pattern has been that children operate with qualitatively different representational structures and performance strategies in phase 1 and phase 3 of the process, and that during the shift between these two phases, they operate with relatively unstable transitional knowledge structures and performance strategies. In relation to this shift in representational means, most theorists and researchers have posited that early in development, children's knowledge is closely tied to particular cultural exemplars; later in development their knowledge consists of a combination of knowledge qua exemplar and more abstract or schematic knowledge; even later, children's knowledge is largely abstract or schematic, and children begin to view exemplars as specific cases of more general structures. Theory and research have also suggested that the transition from reliance on exemplars to reliance on more general knowledge structures is problematic for children and often results in degraded performance on tasks both in natural and experimental situations.

I hypothesized that this U-shaped pattern would characterize children's developing understanding of genres and genre conventions. More specifically, I predicted that children's early understanding of different genres (stories, poems, science reports) would be closely tied to specific cultural exemplars and that children would depend heavily on these exemplars in the production of texts designed to instantiate specific genres. By particular cultural exemplars, I mean texts published for children and familiar to children through their home and/or school literacy experiences. So, for example, when asked to make up and write a fictional story, I expected that a child might reproduce a well-known children's story (e.g., Eric Carle's *The Very Hungry Caterpillar*) more or less verbatim, although perhaps in shortened form. Because texts of this sort would be close copies of well-formed cultural artifacts, I also expected that these texts would be highly prototypic and rhetorically effective.

Later in development, I thought that children's understanding of genres might become somewhat more abstract and less tied to particular exemplars, and that children would attempt to integrate both concrete and abstract genre knowledge during text production tasks. At this point in development, if a child were asked to create a fictional story, I expected that he or she might produce a partially novel story through a process of transforming and/or combining particular features from one or more exemplars. A child might, for example, borrow a plot line from one well-known exemplar, import characters from another, and construct a theme to fit his or her developing text. In this transitional period (from exemplar-based knowledge to schema-based knowledge), I suspected that the prototypicality and rhetorical effectiveness of children's texts might become degraded.

Even later in development, I predicted that children's genre understanding might become even more abstract and that children might have developed a fairly rich meta-discursive understanding of the relationships between schemata and particular instantiations of schemata, viewing specific cultural artifacts as exemplars of certain text-forming possibilities or more general text structures. Moreover, I thought that these children would use their abstract and meta-discursive understanding of different genres in text-production tasks, creating texts that were more original than the two kinds of texts discussed heretofore. Thus, a child might respond to the task of writing a fictional story by creating a relatively novel narrative with text elements (e.g., plot, characters, themes, content) that did not closely resemble those from any particular well-known cultural artifacts. This is not to say, of course, that the child would not rely at all on exemplar-based knowledge. Rather, it is to say that the child would exhibit a sophisticated ability to transform and recombine both concrete information about particular texts and abstract knowledge about narratives in general to construct a relatively original text. I also thought that the schema-based texts produced by the children in this study would be highly prototypic and rhetorically effective, due largely to the children's abstract and meta-discursive understanding of different genres and genre conventions.

In summary, my expectations about the development from exemplar-based to schema-based knowledge about genres were the following. I thought that children would produce the most prototypic texts and the most rhetorically effective texts when they relied either on particular cultural artifacts or relatively well-developed schematic knowledge. During the transition from using particular cultural artifacts to using more abstract cultural knowledge, I expected to see a degradation in the prototypicality and rhetorical effectiveness of the texts produced. I tested this hypothesis by asking children to compose three texts, each representing a different genre (story, poem, science report) and by interviewing them about where they got their ideas for their texts, how they went about constructing their texts, and how much abstract knowledge they possessed about stories, poems, and science reports.

METHOD

Setting, Subjects, and Conditions of Data Collection

This cross-sectional study was conducted in one school with 16 kindergarten children, 20 first-grade children, and 18 second-grade children from one intact classroom at each grade level. All classrooms were culturally and economically diverse and reflected the population of the community at large. Fifty-nine percent of the children were Caucasian; 28% of the children were African American; and 13% of the children were Asian. About half of the children were from working-class backgrounds; the other half were from middle-class backgrounds.

Data were collected in the spring of the school year. I had worked in all three classrooms throughout the year conducting classroom observations, reading with children, talking with children about their journal writing and their other classroom writing, and keeping records of the books children read. Therefore, when I collected the genre data, the children were very familiar with me.

No formalized explicit instruction about any of the genres under investigation was part of the language arts curriculum in any of the classrooms. However, all teachers occasionally engaged children in discussions of some of the characteristic features of different types of texts. Additionally, children were sometimes asked to construct texts similar to ones that they had read during shared reading experiences. In connection with these activities, more discussion and writing occurred in relation to stories than in relation to any of the other genres.

Tasks and Data Collection Procedures

All children were interviewed about their knowledge of various textual and structural aspects of three school-based genres: stories, poems, and science reports. Several weeks later, children were asked to produce written texts designed to instantiate these three genres. Each of the genre-writing tasks was executed on a different day, and the order of the task presentation was counterbalanced. The topic about which the children wrote was the same across the three genre-writing tasks. All children wrote a story, a poem, and a science report about animals. This general topic had constituted the science focus of the classrooms just prior to data collection. Children had received instruction and engaged in a variety of activities that focused on different classes of animals, animal habitats, animal life cycles, and pets. Narrative, expository, and poetic texts had been included in reading and writing activities.

After writing their texts, children were asked to read them. Children were also asked a series of questions about why their texts could be characterized as representing one genre rather than another; why their texts were good representatives of the genres they were supposed to instantiate; whether or not their texts resembled other texts with which they were familiar; and where they had gotten the ideas for their texts.

Coding and Analysis

Following Berman et al. (1986), children's texts were segmented by clause. According to this segmenting procedure, any stretch of extended discourse containing a verb phrase was counted as a clause. Once the texts were segmented, they were coded for a variety of textual and structural features that tend to be associated with particular genres. For example, stories tend to be cast in the past tense; cohesion in stories is achieved by linking co-referential tokens; and the structural core of stories is a problem/attempt(s)/solution complex. In contrast, science reports tend to be cast in the present tense; cohesion in science reports is achieved by linking co-classification tokens; and the macro-structure of science reports includes a topic introduction, descriptions of attributes, and characteristic activities. Poetic texts are a bit more complex. Distributions of cohesive devices and verb tenses vary in poems as a function of content and theme. However, most poems have the following structural features: distinct line structure, distinct stanza structure, and a discernible meter. Additionally, compared to most other genres, poems tend to have more tokens of various tropes such as rhyme, alliteration, and metaphor.

After all texts had been coded for textual and structural features, ratios of features per clause were determined. Texts were then coded both for prototypicality and for overall quality. I used these two measures as independent measures of conventionality and rhetorical effectiveness.

Prototypicality scores were computed based on the relative distributions of textual and structural features within children's texts. In constructing these scores, features for each text type that were considered obligatory and/or extremely common in the text grammar and discourse analysis literature were weighted more heavily than features that were considered to be optional and/or less common. (For a discussion of obligatory and optional features of genres, see Pappas, Kiefer, & Levstik, 1990.) Prototypicality scores ranged from 0 (lowest possible score) to 20 (highest possible score). Using Cohen's Kappa as a measure, interjudge agreement in computing prototypicality scores was 95%

All texts were then scored holistically by a different set of researchers for their overall quality and rhetorical effectiveness. Seven-point scoring schemes similar to those described by Faigley et al. (1985) were developed for each genre with 1 being the lowest possible score and 7 the highest. Using Cohen's Kappa as a measure, interjudge agreement in computing holistic scores was 92%.

Finally, all texts were coded for the degree to which they reflected a dependence on particular cultural exemplars versus more abstract cultural knowledge. Seven-point coding schemes were devised for each genre. These schemes ranged from "wholesale borrowing of a familiar cultural exemplar," which would received a rating of 1, to "relatively original text based largely on abstract or schematic knowledge of a particular text type," which would receive a rating of 7. Texts falling in the middle of each continua represented hybrids which, in various but fairly obvious ways, embodied a mix of concrete elements from exemplars and attempts to be original in some way. These texts received ratings between 2 and 6 depending on the degree to which they reflected exemplar-based versus schema-based knowledge and strategies. Coding decisions were made interpretively by analyzing many sources of data in concert with one another. These data included (a) children's written texts, (b) children's responses to interview questions about where they got the ideas for their texts and whether their texts "were like" any other texts they knew about, (c) children's responses to questions about what they knew about the textures and structures of different text types, (d) records of the books that children had read both at home and at school, (e) field notes from classroom observations of reading and writing activities and instructional input, and (f) field notes about children's responses to classroom literacy activities.

Explaining these coding schemes and scoring procedures in greater detail is beyond the scope of this paper. However, examples of three of the children's poems, each with a different score, are provided in Figures 1, 2, and 3. Taken together, they cover the range of the scoring continuum for poems. Figure 1 represents a wholesale reduplication of Maurice Sendak's poem for the month of May, which appears in *Chicken Soup with Rice.* Figure 2 represents a poem based on the nursery rhyme "Little Miss Muffet" that was reconstructed employing different characters and an extended narrative structure. Figure 3 is an example of an original poem written by a child about her pet fish.

The coding schemes and procedures for stories and science reports were similar in character. Although coding decisions were sometimes difficult, in 89% of the cases judges were within 1 point of each other using the 7-point scales. All disagreements were discussed by the two judges and the author until consensus was reached.

Descriptive and inferential statistical analyses were conducted to examine differences in prototypicality and rhetorical effectiveness as a function of grade and genre, to examine differences in the reliance on specific cultural exemplars versus reliance on more abstract schematic knowledge as a function of grade and genre, and to investigate the relationships among these variables.

RESULTS

As a first step in the analyses, the relations between prototypicality and exemplar-based versus schema-based texts and between rhetorical effectiveness and exemplar-based versus schema-based texts were plotted. These plots are shown in Figures 4 and 5. As predicted, the most prototypic texts produced by children were grounded either in specific cultural exemplars or quite abstract cultural knowledge of genres. This was also true for the texts that were most effective rhetorically. Less prototypic texts and texts that were less effective rhetorically were characterized by an amalgam of elements from different exemplars and sometimes an amalgam of structural fea-

In May I really think it best
To be like a robin lightly dressed
Making chicken soup in my nest
Mix it once
Mix it twice
Mix that chicken soup with rice

Figure 1. Exemplar-Based Poem (Score=1)

Once upon a time a little turtle sat on a tuffet
Along came a little girl name Myrtle
And the little turtle scared the little Myrtle
And she ran away from the tuffet
And then he could stay there by himself.

Figure 2. Exemplar-Schema Hybrid Poem (Score=3)

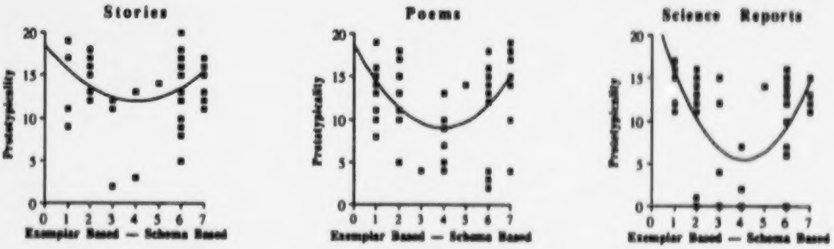
My fish has a body like a small piece
of Gold.
And his eyes look like a white bulb
shining.
And his tail looks like a duck
swimming upside down.

Figure 3. Schema-Based Poem (Score=7)

tures from different genres. This pattern of results was true for all text types, but it was most striking for science reports and poems.

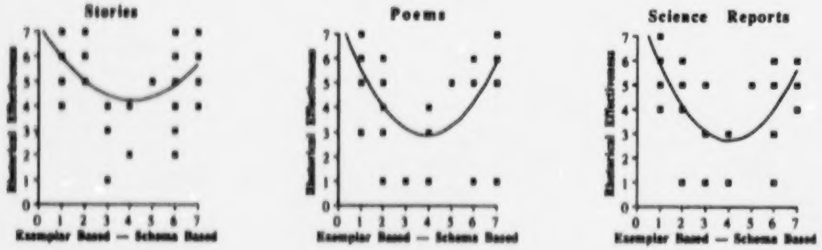
Separate chi-square analyses were conducted for each genre to discover patterns of association between prototypicality scores and exemplar/schemata ratings, and between holistic scores and exemplar/schemata ratings. Using median splits, texts were categorized as either high or low in prototypicality; texts were also categorized as either high or low in overall quality; finally, texts were categorized as being either exemplar-based (score of 1 or 2), schema-based (score of 6 or 7), or exemplar/schema hybrid (score of 3, 4, or 5). Statistically significant patterns of association were found for all comparisons of all text types. These results are displayed in Table 1. In most cases (8 out of 12), larger than expected values were found in cells characterized as high prototypicality *and* exemplar-based, high prototypicality *and* schema-based, high rhetorical effectiveness *and* exemplar-based, and high rhetorical effectiveness *and* schema-based. In all cases (6 out of 6), larger than expected values were found in cells characterized as low prototypicality *and* exemplar-schema hybrid or low rhetorical effectiveness *and* exemplar-schema hybrid.

It is worth adding a general comment about some of the outliers in the data. Many of the exemplar-based and schema-based texts that received low prototypicality scores and low overall quality were written by kindergartners who did not instantiate the genres they were asked to instantiate. In most cases, these children wrote stories no matter what kind of text they were asked to write. Hence, when their texts were supposed to represent poems or science reports, they received low scores both for prototypicality and for overall quality.



Note: Not all data points are visible because those with identical coordinates are superimposed.

Figure 4. Relationship between prototypicality and relative dependence on exemplar-based and schema-based knowledge and discourse strategies.



Note: Not all data points are visible because those with identical coordinates are superimposed.

Figure 5. Relationship between rhetorical effectiveness and relative dependence on exemplar-based and schema-based knowledge and discourse strategies.

Individual one-way analyses of variance and Sheffé post hoc comparisons were also conducted for each genre to determine whether there were differences in prototypicality, rhetorical effectiveness, and exemplar-based versus schema-based texts as a function of grade level. There were no differences in prototypicality as a function

Table 1

Patterns of Association between Prototypicality Scores and Exemplar/Schema Ratings and between Holistic Assessment Scores and Exemplar/Schema Ratings

	Stories	Poems	Science Reports
Prototypicality Scores by Exemplar/Schema Ratins	χ^2 (2, N=54) = 8.07 p<.02	χ^2 (2, N=54) = 9.70 p<.008	χ^2 (2, N=54) = 10.14 p<.007
Holistic Scores by Exemplar/Schema Ratings	χ^2 (2, N=54) = 9.54 p<.009	χ^2 (2, N=54) = 9.44 p<.009	χ^2 (2, N=54) = 6.71 p<.04

of grade level for stories. There were, however, statistically significant differences in prototypicality as a function of grade level for poems. Both first- and second-grade children received statistically significantly higher scores than kindergartners, $F(2, 51)=5.46, p<.008$. There were also statistically significant differences in prototypicality as a function of grade level for science reports. Both first- and second-grade children received higher scores that kindergartners, $F(2, 51)=16.56, p<.001$.

With respect to the rhetorical effectiveness of children's texts, statistically significant grade-level differences were found for all text types. For stories, second graders scored significantly higher than kindergartners, $F(2, 51)=3.68, p<.03$. For poems, second graders also scored significantly higher than kindergartners, $F(2, 51)=4.04, p<.03$. And for science reports, both first and second graders scored significantly higher than kindergartners, $F(2, 51)=13.77, p<.001$.

Finally, with respect to the exemplar-based/schema-based continuum, statistically significant grade-level differences were found for poems alone, $F(2, 51)=10.76, p<.001$, with both first-and second-grade children writing significantly more schema-based poems than kindergartners.

Comments about the nonsignificant results for stories and science reports with respect to the exemplar-schema continuum are also relevant here. Many children at all grade levels produced stories that were both schema-based and highly prototypic. This was not the case for either their poems or science reports. In relation to this point, there were no differences in prototypicality for stories across grade levels, and on average, all children's stories received considerably higher prototypicality scores ($\bar{x}=14.48$) than either their poems ($\bar{x}=12.35$) or their science reports ($\bar{x}=10.39$). The absence of significant grade-level differences for science reports seemed primarily due to large variances at all grade levels. However, a look at children's modal scores (3, 2, and 7 for kindergarten, first, and second grades respectively) did suggest a developmental trend.

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Although this study yielded strong evidence for U-shaped relationships between prototypicality and exemplar-based versus schema-based texts and between overall rhetorical effectiveness and exemplar- versus schema-based texts, it yielded only partial evidence that the U-shaped patterns were systematically related to children's grade level.

Results from the study warrant several conclusions and suggest several implications. First, finding that the most prototypic texts and the most rhetorically effective texts were largely informed either by particular cultural exemplars or abstract schematic cultural knowledge about narrative, poetic, and expository texts was an important discovery. Equally important was discovering that the texts that were least prototypic and least rhetorically effective were often informed by a combination of exemplar-based and schema-based knowledge and discourse strategies. Based on these findings we may infer that, whether development proceeds more or less linearly from the use of more concrete to more abstract knowledge structures and discourse strategies, when children are betwixt and between using concrete and abstract knowledge and strategies in text production tasks, they encounter cognitive difficulties.

Second, because a cross-sectional design was used in this study, no strong claims may be made about the possibility that the U-shaped patterns of findings were systematically related to age or grade level. However, some findings did suggest that this may be the case. First, results form the analyses of poems provided modest support for this hypothesis, as did the developmental trend suggested by the modal scores for science reports. Second, finding *both* that children's stories were considerably more prototypic than their poems and science reports *and* that children's stories were more schema-based than their poems and science reports also suggested a positive relationship between the use of abstract schematic knowledge and a more sophisticated understanding of genre conventions. Combining this inference with the fact that children's developmental trajectories for narratives tend to be more advanced than their developmental trajectories for poems and informational texts (e.g., Egan, 1986; Hicks, 1990; Langer, 1985; Nelson, 1986) provides additional support for the hypothesis that children's knowledge of genres develops from being more exemplar-based to more abstract and schematic. Despite these findings, however, longitudinal studies are needed to determine whether individual children's representational structures and text production strategies for different genres develop from more exemplar-based to more schema-based.

A third conclusion that may be drawn from this study is that, for some children, some of the time, relying heavily on particular cultural exemplars in text production tasks may be important and productive. This conclusion was suggested by the high prototypicality scores and rhetorical effectiveness scores for children's exemplar-based texts. In connection with this point, consider the critical function, for some children, of copying from environmental print in their developing understanding of conventional forms of symbolic aspects of writing (Goodman, 1986; Sulzby, Barnhart, & Hieshima, 1989). In producing other people's texts "as if" they were their own, children may be able to operate as novelists, poets, and scientists. In doing so, they may display knowledge and discourse strategies relevant to different texts and text-forming possibilities over which they will soon have much more control. In this regard, the wholesale or partial reduplication of cultural exemplars may allow children to play at being more competent than they are, to "behave beyond [their] average ages[s], above [their] daily behavior; in play it is as though [they] were a head taller than [themselves]. As in the focus of a magnifying glass, play contains all the developmental tendencies in a condensed form and is itself a major source of development" (Vygotsky, 1978, p. 102). If, like other forms of play, the appropriation of cultural exemplars does function as a zone of proximal development, we may want to question our tendencies to discourage children from "copying" well-known cultural artifacts and our insistence that children always strive to be creative. The relations among concrete exemplar-based thinking and critical thinking, originality, and creativity may be diverse and co-constitutive. Copying tokens of particular text types may serve important developmental functions for some children.

A final conclusion that may be drawn from this study is that children seem to have trouble moving between concrete exemplar-based knowledge and discourse strategies and more abstract schematic ones. Most of the children's texts that received the lowest prototypicality scores and the lowest rhetorical effectiveness scores were also texts that were grounded in a combination of exemplar-based and schema-based knowledge and discourse production strategies. This final conclusion suggests the potential usefulness of instructional activities that scaffold the movement between these two kinds of knowledge and strategies. However, given the paucity of our knowledge about the exact roles of concrete and abstract knowledge in children's developing understanding of different genres and the dearth of evidence we have about individual differences in the developmental trajectories of different children, such scaffolding activities probably ought to be gentle, flexible, open-minded, and open-ended. Within these activities, we would want to pay close attention to the cues that children provide about the appropriateness and utility of particular instructional moves. In this way, we would hope to learn as much about children's development and learning as the children learned about different genres and genre conventions.

All of these conclusions, implications, and speculations suggest that charting the ontogenesis of genre understanding in young children is an important research frontier in the field of early literacy development. Surprisingly, we know very little about discursive and cultural dimensions of writing development such as *genre*. Yet genre-specific communicative competence is critically important for children's long-term success vis-à-vis the kinds of tasks that they will be expected to do as they progress through the grades and move into the work place. Greater understanding of the development of genre knowledge in young children should help us to design classroom activities that enhance both children's developing communicative competence and our ability to be instrumental in the process.

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CAN TEACHERS' IMAGES OF GOOD WRITING CONFLICT WITH GOALS OF PROCESS WRITING?

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One of the factors that appears to undermine implementation of process approaches to writing is the teacher's expectations or schema for students' written work (Michaels, 1987). Ulichney and Watson-Gegeo (1989) found that teachers' dominant interpretive frameworks influence students to match their writing to the teacher's expectations. What can begin as an innovation, then, comes closer and closer to resembling traditional classroom routines. These aforementioned studies focused on teachers who lacked extensive training in process approaches and who emphasized spelling, punctuation, word choice, and grammatical structure in their interactions with students. We know little about teachers' expectations in classrooms where there is extensive training in a particular model that focuses on literature and its connection to classroom writing.

This paper describes a classroom where the teacher had extensive inservice with a particular staff development model, the Teachers College Writing Project. It explores the nature of the teacher's image of good writing, its effect on teacher-student interactions, and its influence on students. These three aspects are interwoven through a discussion of (a) writing from personal experience, (b) selecting a particular form for a specific audience, and (c) including elements of language and style in writing. The paper analyzes both the positive and negative features of the power of the teacher's image, raising questions for further exploration. The philosophical assumptions that undergirded the study were consistent with interpretive traditions articulated by Erickson (1986).

PARTICIPANTS, DATA COLLECTION, ANALYSES

Context/Participants

The fifth/sixth-grade classroom where this work took place was located in an elementary school in a middle-class neighborhood in New York City. The teacher, a female Euro-American in her mid-40s, had participated for 4 years in the Teachers College Writing Project, which included extensive inservice training and on-site trainers in the classroom to work with classroom teachers. The principal encouraged teachers to participate in the project and allowed release days for inservice. Both the district and the school supported the efforts of a trainer, Ms. Henderson (all names are pseudonyms), from the Writing Project to assist Ms. Meyer in the classroom; Henderson provided support about two times weekly.

During the study, Ms. Meyer read the most recent version of the process approach, *Living Between the Lines*, where Calkins (1991) described writers' notebooks as "invitation to write" (p. 38) in which children, like writers, could generate entries, make notes, write rough drafts, use descriptions, or record what they notice about the world around them. Students could draw from these notebooks to create more polished pieces, called "projects," for eventual sharing with a wider audience. In selecting topics from their notebooks for projects, student should find "the meaning in the moments" (p. 74), and select topics that "feel significant" or "reveal something bigger" (p.61). Thus inspired by this latest rendition of a process approach, Ms. Meyer set out to teach her 28 students (14 Euro-Americans, 7 African-American, 4 Latinos, and 3 Asians from both middle class and working-class backgrounds) about aspects of good writing.

Data Collection

Data were collected over a 5-week period in the fall of 1990. This time frame represented a meaningful unit of study for the teacher because she introduced students to notebook writing (Calkins, 1991) with the intention that students would select a theme or issue from their notebooks to revise for a particular audience, called a "project." Data drew from the sources listed below, whereas specific examples used in this paper come from an analysis of four students who were studied as case studies: two African-American girls—Ella and Anita, and two Latino boys—Miguel and Anthony.

Classroom observations. The primary source of data for this aspect of the study was classroom observations. As a participant observer, I collected observational data from field notes, audiotapes, and videotapes of the 1-hour writing period. This writing period included mini-lessons by the teacher, teacher-student writing conferences, writing time, and share sessions where students read their work to one another.

Texts. All the notebook entries and projects from six target students were collected. Additionally, I discerned the topics of 26 of the 28 students through class discussions and brief interviews.

Interviews. I conducted two 40-minute interviews with the teacher to gain information about the school setting, her goals for writing, her specific plans, and her perceptions of the students. In the first interview, questions focused on the teacher's goals for notebook writing, her rationale for having students engage in this type of writing, and the progress of students. The second interview occurred 3 weeks into the data collection, with questions emerging from events that surfaced from the classroom interaction. Interviews with a subset of the student participants supplemented the observations and teacher interviews.

Analyses

The method of data collection drew from Bogdan & Biklen's (1982) approach to qualitative research. From the narratives of the classroom that consisted of a combination of field notes, videotapes, and verbatim transcriptions of the audiotapes I selected the themes of (a) writing from personal experience, (b) selecting a genre for a particular audience, and (c) including imagery and figurative language. I highlighted key phrases, important events, and central ideas to categorize recurring patterns under these three themes. The categories of modeling, using examples from texts, assignments, and language cues captured the teacher's strategies in conveying her ideas about writing.

Next, I analyzed the writing conferences using both the videotape and audiotape data, and performed a systematic microanalysis similar to Erickson's (1977). The unit of analysis was the speaker turn, indicated by a numbering system that begins with the first speaker turn. Pauses are indicated in the transcripts by one slash (/) indicating a short pause and two slashes (//) indicating a longer pause. Overlapping talk is indicated by the use of two dashes (--). Words that were emphasized by the teacher or student are underlined.

To validate my findings, I triangulated the data by drawing from the teacher's interviews, the students' interviews, and the students' texts. I searched for disconfirming evidence for each of the major themes. Additionally, I showed segments of the videotapes to several audiences of researchers and asked for their interpretations of the teacher's discourse. I refined the themes and interpretations from the ensuing discussions.

CLASSROOM THEMES

Ms. Meyer used many of the features advocated by Calkins (1986, 1991) in her classroom. Students kept writer's notebooks and selected pieces to turn into projects for a particular audience. The teacher made extensive use of literature as examples of good writing, and the teacher established a time of the day devoted exclusively to writing. She had a particular view of good writing that she said she had refined from an institute at Teachers College the previous summer. She described the course as an adult literature class in qualities of good writing and suggested that the same qualities could be applied to children's literature. In Ms. Meyer's view, good writing (a) comes from personal experience, (b) takes on a particular form for a particular audience, and (c) uses elements of style such as imagery and figurative language.

The Best Topics Come from Personal Experience

Ms. Meyer strongly believed that children should write about issues with which they are very familiar. For her, this meant that children should write from personal experience and write "true" stories rather than fiction. This belief underlay Ms. Meyer's rationale for having students keep writers' notebooks:

> Well, I think what I want from them is to be able to just get them to become chroniclers of life, of their lives. I think for me the most important thing is that I give them this gift of being able to observe their lives and to look at themselves and what they're doing and their place in the world and be able to keep track of that . . . I think it's really a very nice gift to be able to give to children—to teach them to be observers and recorders of their lives and the lives around them. That's what I really hope that they'll get, that they'll take always with them, that this gift will last forever.

Ms. Meyer believed that through the notebooks students could record their own lives. Part of her rationale for providing this opportunity for children reflected her sadness that she had not chronicled her own life:

> I think one of the saddest things in my life is that I never wrote down all of these things that I thought I would always remember but that I didn't. I'm very envious of people who always do, who wrote in notebooks and kept their feelings. They chronicled their lives and just had it for whatever reasons, whether they never looked at it or whether they always looked at it.

Ms. Meyer believed so strongly in children writing about their own lives that she discouraged students from writing fiction until they were well-grounded in writing from personal experience. She did not want students to write fiction in her class because she believed that: (a) students wrote better pieces when they wrote about their own lives and (b) she could not monitor their writing nor teach them the qualities of good writing using fiction. Ms. Meyer expressed her beliefs that it was necessary to explicitly teach fiction writing in the second interview:

> There's no way to model them, there's no way to get them to understand what qualities of good fiction are. They get out of hand so if you're going to let them do that, you have to study fiction first. You have to study how to develop a character; you have to study how to develop a setting; you have to teach them how to do that and then you have to model for them first—good, short pieces of fiction, good short stories so that they understand how to structure a fiction piece.

Ms. Meyer's reluctance toward children writing fiction rested on her assumptions that students were too unsophisticated to see that fiction writing was based on "truth"—the personal experience of authors. She believed that writers used notebooks to generate ideas for fiction, but that notebooks recorded events of writers' lives that could be used for development into stories. Ms. Meyer felt strongly that students should base their writing on research or the reality that they observe around them. Students have to write from their own experience because:

> That's the way it has to be for young kids. Otherwise you get these stories about Ninja Turtles and that G. I. Joe is coming alive and about people living on the moon. It's not based in any kind of fact or any kind of research or any kind of reality. Whatever their story is about, they're not doing any research into the reality of the fiction, you know?

Ms. Meyer found that students wrote unwieldy fantasy stories when allowed to write fiction without instruction about the qualities of good writing. She acknowledged that students liked to write fiction, but she felt they did not learn anything from such writing. She said, "They [students] like to but they don't learn anything from it [writing fiction]; they never learn anything from it, ever."

An emphasis on selecting personal topics and infusing them with deep emotion was also apparent through the interactions with students in small-group or individual conferences. Often in individual conferences students revealed personal anecdotes or observations about relatives or people that were close to them. Dana, for instance, revealed how she walked to the park with her father who was blind, and described what she saw to him and how she felt about the experience; Carl expressed his confusion over his parents' divorce; Sam talked about the differences between his mother and the woman who was to become his step-mother. Alexis became angry and discussed how she hated her grandmother and how much her feelings contrasted with Orlanda's relationship with her grandmother. Both Ms. Meyer and Ms. Henderson encouraged students to write and talk about these family issues. With Carl, for example, Ms. Meyer encouraged him to write about his feelings about his parents getting divorced and the resulting confusion. In the conferences, Ms. Meyer often made suggestions about how a student could write about one particular moment with a grandparent or a memory of the relationship between the child and another person.

Excerpts from conferences with several children illustrate Meyer's emphasis on the selection of personal topics. For instance, in her conference with Miguel who suggested writing about a killer whale for his project topic, Meyer immediately asked whether he were like a killer whale:

61. T: So you think that's at all/ you think you're at all like a killer whale?// [*questioning tone shows interest*]
62. Mig: Yes I do/
63. T: Yeah// So you think that might be a/ an interesting kind of/ project for you?/ Try to write something on/ take your entries/ and look through your entries and see where you find/ go through all/ mine it/ mine your notebook/ for places/ where you write about yourself/ where you really think you show specific characteristics/ and then work on the characteristics of the killer whale/ and kind of work that together?//
64. Mig: Sure/ [*with enthusiasm*]

Initially, Miguel had suggested an interest in writing about a killer whale. His entries reflected information about a whale's size, weight, and other characteristics. The teacher focused on a way that Miguel could connect the whale to himself. Although Miguel had seemed interested in writing an expository piece, he became enthusiastic about comparing himself to a killer whale. The teacher had clearly influenced his choice of topic.

Although Ms. Meyer's relish for students' writing about issues of "importance" or about people who were close to them was met with enthusiasm by some students like Miguel, it turned out to be quite uncomfortable for another student. Anita had been writing a description of her experiences at Lenox Hill Camp when the teacher conferred with her, suggesting that piece was not very important. Instead, Meyer suggested that Anita should write about her father:

33. T: It is so interesting/ Anita/ that you you talk about writing that because there are so many entries/ when I look through this/ I would have thought that the thing that would have stood out to you most would have been about your father// You have so many entries about your father in here// [*pace slows down*] (She reads from text slowly with feeling) "When I was living in Jamaica I had a farm/ We had chickens and my father has something like/ an idea to let the chickens"//

Even after Anita showed some resistance to writing about her father by finding other entries and seeming disinterested in the topic of her father, the teacher persisted:

51. T: Mhmmm/ I don't know// (sighs, long pause) I think you need to think// I

think you really need to go through this book/ right?/ Really go through this book very carefully and read it very carefully/ And take another color pen/ OK/ and underline/ all of the sentences in your book/ all of the places in your book where you think you wrote something so beautifully and that it was so important for you/ OK?/ Because I think/ Anita that you have really really deep and important things/ to say/ about relationships and about your mother and your father and I just don't think/ that Lenox Hill/ is the most important thing for you in here// If you decide that that is what you want to do/ OK/ If it turns that after this you can't find/ some big important idea that comes out of this for you that you would like to write about/ [*pace slowed down, former said very deliberately*] Maybe it's going to be wishing/ you know/ that your father were different/ that you could have more good times like the time in Jamaica// [*pace speeds up*] Maybe you could really really write up that time in Jamaica because that was a really good time/ wasn't it?//

With some students, Meyer was not as explicit about encouraging them to write about personal topics; instead, she implicitly discouraged certain forms of writing. For instance, when Ella told Ms. Meyer about the fictional story she was writing, Meyer ignored her comment and focused on the personal entries Ella had written about her aunt:

24. Ella: . . . This fiction project that me and Serena are doing// We're writing we're writing these two stories/ and we've been writing them for (laughs) quite a while now/

There was a brief exchange where teacher and student talk about an unrelated issue and then the teacher said:

34. T: Okay so why don't you start/ take a folder/ okay// and on separate pieces/ stick some papers in your folder/ and start lifting out those entries about your aunt/ and start finding the ones that really are important/ about the times that were really important// And start writing them in such a way that you think that they would fit in perfectly// Okay?/ (Ella nods) And then you'll decide how to put it in to a letter form to her/ okay?// (Ella nods) That sounds like a nice project Serena/ uh Serena/ (laughs) Ella/

The teacher moved the conversation away from the fiction topic and promoted Ella writing about her aunt. From this interaction, Ella began to understand that fiction writing was not valued. She then focused on her personal writing and wrote a letter to her aunt which included many personal experiences.

Like Ella, many other students wrote about topics of a personal nature. Ms. Meyer was successful in communicating her emphasis on personal writing. One measure of this success in an examination of the topics about which students in the class wrote. Of the 28 students in the class, 19 wrote about relatives—aunts, grandparents, great grandparents, brothers, and parents. Five student wrote about themselves—being dyslexic, memories of fishing, experiencing holidays in both China and the United States, growing up in Africa, and the comparison between the student and a whale. Few students wrote about topics that were not of a personal nature. One student wrote a theme piece about feelings and friendship, one wrote a series of nature poems, and two students' pieces were unknown to me.

Selecting a Genre for a Particular Audience

A second aspect of the teacher's image of good writing is revealed through selection of a particular form such as a letter for a specific audience. Ms. Meyer believed that students ought to write texts with a particular audience in mind. This belief was interwoven into the class sessions—both whole-group mini-lessons and in the individual writing conferences. Ms. Meyer and the trainers used words such as "audience" and having a purpose or reason for writing. When students were determining the form their projects would take, Ms. Meyer began conferences by asking students questions about form and function of their texts. For instance, she asked, "Who is this going to be for? Who do you think would want to read this?" to get students to think about audience. She also asked students what form their projects would take by saying, "What will this be?" and made suggestions about turning the piece into a letter to someone or a poem.

Ms. Meyer and the trainers supported the idea of writing for a particular audience by modeling their own writing. For instance, a trainer described writing a letter to her mother telling her how she felt and writing a toast for another occasion. Ms. Henderson explained how she was writing a speech for a large group of people about her experiences in classrooms. Ms. Meyer explained to a student, Serena, that she could imagine writing a letter to her own daughter to tell her how much she cared. Ms. Meyer had several favorite formats that she recommended to students—letters to a particular person and poems.

Ms. Meyer was often didactic in her conferences when she discussed audience. With Miguel she used several strategies: She asked questions, gave examples, and told him specifically to think about audience:

> 5. T: And the poem is going to be? What kind of form do you want this to take?/ How are you going to do this/ just on three separate pieces of paper as a project?/ Who is it going to be for?/ Who is the audience?/ Who do you think is going to want to read this?/ That is what you have to think about/ who is the audience// Do you know what I am saying?/ Like some people are writing letters/ others are doing something else/ others are writing poems// You have to decide who your audience is going to be/ how you are going to present it/ What would you like it to be?// Would it be an article like for a magazine?/ nah// would it be a speech?/ Who would be interested in it/ you know// Would it be a talk?/ You know/ you have to think/ OK?//

Whereas with Miguel the teacher provided many different suggestions for forms and audiences, with Ella she emphasized the use of a letter:

> 23. T: So/ don't you think that/ what does that sound to you?/ that maybe this would be that/ that you you have all those stories about when you used to do things with her?// Well what about if you turned them into uh/ kind of a letter to her// That would be a really neat project a real neat letter to her where you/ went on and on and talked to her about all the wonderful times as a way to say to her I miss you so much// Maybe in a way to plan/ a time where you could get together?/ Yeah?/ Does that sound like something you might want to do?//

Letters seemed to be a favorite format with Ms. Meyer because she also encouraged Anita to write a letter to her father:

> 57. T: So maybe it would be a nice letter to him/ "Dear dad/ I remember Jamaica"/ and you know you could write this whole beautiful thing about Jamaica/ and "I wish we could have more times like that"/ You know/ Maybe that is something you would like to do as a way of contacting your father// you know?/ . . .

The concern for selecting a particular form for an audience was represented in the students' projects. Students used a variety of forms for their projects, often with a particular audience in mind. Several students wrote descriptive pieces about their relatives, whereas others wrote poems to be shared with classmates. Several students wrote letters to a particular relative, and one student wrote "an open letter" to the school community about being dyslexic. Two students picked up on the trainers' ideas of writing a speech and wrote toasts to parents who were getting remarried.

Elements of Language and Style

A third aspect of the teacher's image of good writing was the emphasis on imagery and figurative language (Lukens, 1990). Ms. Meyer had strong beliefs about what constituted effective pieces of writing. Consistent with practices advocated by the Teachers College Writing Project, Ms. Meyer drew heavily from children's literature to form her ideas and to communicate her values to students. These images began to emerge both through Ms. Meyer's planned lessons and through the underlying messages she communicated to students in conferences. The elements of imagery and figurative language permeated the literature she read, the discussions, and assignments she gave students. Imagery consisted of including descriptive adjectives, adding detail to events and settings, and avoiding the use of common words such as "nice" and "good" for the purposes of forming a picture in the reader's mind. Figurative language included any type of comparisons, especially similes and metaphors.

In almost every class session, the teacher, the trainer, and the students discussed the uses of language by authors and by student/authors. The teacher did not refer to imagery or figurative language by these names, but used such expressions as "description," "beautiful language," "detail," and "comparisons." Both Ms. Meyer and Ms. Henderson referred to "getting an image in the reader's mind" as a phrase to connote imagery. Other specific language cues included [the author] putting "you right there," and "creating pictures" for the reader.

When reading literature to the students, Ms. Meyer and Ms. Henderson pointed out particularly effective language. These examples tended to be filled with adjectives and details such as *When I Was Young in the Mountains:* "When I was young in the mountains, we'd pump pails of water from the well at the bottom of the hill and heated the water to fill round, tin tubs for our baths." Similarly, the discussion that followed the reading of *A Chair for My Mother* centered on two particular phrases: "But each evening every single shiny coin goes into the jar" and "Yes, a chair. A wonderful, beautiful, fat, soft armchair. We will get one covered in velvet with roses all over it."

Students' texts that were read aloud also provided opportunities for teachers and students to discuss description and addition of details to form a picture in the reader's mind. Ms. Meyer celebrated students' use of imagery in their writing by calling attention to it and by becoming quite excited about the inclusion of beautiful language or comparisons. For example, when Anthony offered "the pineapple filled my mouth with joy" as an example of good writing, Ms. Meyer jumped up and said, "Oh wow! That's so great! The pineapple filled my mouth with joy." After Ella read her work about skiing adventures in the Catskills, Ms. Meyer responded:

> You know, it's so interesting. That's such an interesting ending. It almost sounds like that's what could have been like Cynthia Rylant's notebook could have been like that. Like your line went from one thing getting there to the snow mobile, to the skiing, to the drinking cocoa. I could just see, I can almost see lifting that out and turning that into a picture book about going to a country house. And all the different things, being tangled in the trees and drinking the cocoa. It sounds great, Ella. Really great. And I loved how you described. Each thing you talked about you did such a nice description about the cocoa and about the sledding. I loved it. And about the smell of the pine. It's really nice.

In addition to pointing out examples of imagery and figurative language, Meyer sometimes was more directive. For instance, in a conference with Anthony, she employed a didactic tone of voice and gave Anthony an assignment to add descriptive language to his grandmother piece:

> 21. T. . . . Now I want to see a total description/ I want you to work right now/ "My grandmother always wore loose clothes//" I want you to fill up this page now with descriptions of what she looked like// That's all/ and then show it to me// OK/ Just what she looked like/ the kinds of things she wore/ what her face was like/ what her hair was like//

Students' texts reflected her emphasis upon imagery and figurative language. Miguel used many comparative images in his killer whale piece (see Appendix A). Anthony included many images in his grandmother piece, using many of the adjectives and descriptive words encouraged by the teacher in his writing conference with her (see Appendix B). Likewise, Ella included specific images, detailed phrases, and graphic verbs in her letter to her aunt (see Appendix C).

DISCUSSION

How can we make sense of Ms. Meyer's image of good writing, her interactions with students, and students' subsequent responses? On the one hand, Ms. Meyer achieved success with her students. She taught them to write about topics of a personal nature, to write for a particular audience, and to include imagery and figurative language in their pieces. And many students seemed to have responded positively and learned these features. For instance, most students wrote pieces from their own experience or about relatives. Miguel became enthusiastic about comparing himself to the killer whale and Ella became immersed in the letter to her aunt. Students also were able to write a piece for a particular audience. Several students incorporated imagery and figurative language easily into their texts. Through the use of implicit messages and explicit discussions, Ms. Meyer conveyed her intentions, values, and expectations for students. Most students were able to understand and weave these features into their writing.

On the other hand, the teacher's interactions with students in the classroom discourse raise questions about what the students really learned and the teacher's implementation of a process approach. For instance, with Meyer's emphasis on writing about topics of deep, personal import, she may have been blinded to students using other genres such as fiction or exposition. In her zeal to get students to understand their own lives, she may have undermined students' attempts at choosing their own topics, thus violating a central precept in process writing—students' ownership of the topics about which they write.

Likewise, in her enthusiasm for students to have real audiences for their pieces, Meyer may have imposed her own values in what appeared to be inappropriate situations. Inadvertently, Meyer may have caused pain for Anita by recommending that she write a letter to a person who, it turns out, had abused her. Because of her enthusiasm for audience, Meyer's suggestions often seemed like assignments; thus, students were not free to determine their own audience or perhaps, to understand why writing to a particular person might be of value.

Her focus of imagery and figurative language might have been exaggerated in its effects on students. Ella's piece reflects some effective verbs and descriptive adjectives that help create a strong interesting letter. For example, her use of the word "drifted" adds an interesting detail to the story, whereas her use of the verb "wriggled" portrays a particularly vivid image. In Anthony's text, however, the description of his grandmother in the first paragraph, which he did in response to the teacher's assignment, is excessive. Although the adjectives do create a picture in the reader's mind, the comparisons of the gown to the sky and his grandmother's walk to that of an old man lose their power within the myriad of other details.

Influenced by her own experiences of text and teaching, Ms. Meyer's image was so powerful that it may have bordered on the rigid. Anxious to implement the new developments in the Project related to qualities of good writing and writing notebooks from personal experience, Ms. Meyer focused on those aspects at the expense of some of the underlying principles of the Project. In addition, the force of her own authority may have created students' compliance with her ideal rather than active participation through their own choice. In a sense, we can view Meyer's enactment of the Writing Process as an innovation gone awry. The study illustrates that even with extensive teacher education and support, there is no guarantee of changing classroom norms. Teachers' dominant frames, as Ulichney and Watson-Gegeo (1989) suggest, have consequences for their interactions with students and for subsequent student learning. As exemplified by this teacher, teachers' images of good writing may be powerful enough to interfere with innovative goals and processes.

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APPENDIX A

Miguel's Text

You know, when I go swimming I just get the feeling of being a killer whale in the deep blue ocean. Then again I feel like I am being followed by a shark, so then I get scared and I get out of the water. But thinking of being a killer whale, I then dash to the water without being scared of the shark. But imagining the shark, how fierce it would be, hurdling through the water, mouth open, wantin to crunch on my bones and rip my flesh off my bones. Boy that would be scary! But wait, I'm a killer whale so then I would be able to tear the shark's flesh and crunch on it's bones.

With my 30 ft. body and the shark being only 15 ft., boy would I crunch him for lunch I would slap the shark on it's head with my great and powerful fluke, and let it swim away.

Killer whales can live up to 60–70 years, but guess what?

So can I!

I know, because I am going to exercise, swim [but of course not as fast as the killer whale], eat properly and I am going to be a strong as the killer whale, and as brave as the killer whale.

APPENDIX B

Anthony's Piece

My Grandmother Matilda

Thank god I still remember what my Grandmother looked like; she always wore loose cloths. She used to wear embroiderd flowers on her blue gown. It was the most Beautiful Dark Blue, more bluer than the sky. Her shoes were black with a Brown zig zag bottom; when she walked she limped like a man with a cane. Thank god I saw her because she always loved me I mean realy loved me. She used to play the pilion, a pilion is a kind of instrument that you pound and it makes a high piched ding that filled the whole niehborhood. I would play the drum and we would go to the park and have lunch and go to the hight's and have a ice that is called a piragua. (it's a ice that is shaved from a big block of ice and there are flavors that you have to pick and the ice is put into a cup and then the flavor in the cup and then you eat it and drink it. When you go to 181st it gets noizy and people come gushing in to the streets and they put out there tables and start to sell. it's weird when we came home it's different. in the morning people dont come gushing into the streets and you cant get the mouth watering flavor of the air and the frut flys hitting your face like a mist of water. it's so poluted in new york so you cant sell or get a piragua. my grandmother took me to kentucky frided chicken. it was the most oily good chicken and I almost ate the whole thing and the room looked like a lot of pigs just ate the time of there life and they were right. I remember when I was five years old and my grandmother was dying and I herd a scream that filled the whole room and gave me a chill down my spine I went to her room and I kissed her and huged her and she took me by the sholders and said that she was going to die and she cryed. my grandmother always wanted to see me get old but she dyed to soon.

APPENDIX C

Ella's Letter

Dear, Aunt Delores.

I finally decided to listen to you. Instead of running up your or Grandma's phone bill I'm writing you a letter. Remember those stories you used to tell me about when I was little. "I know" "I know." Of course you remember them. Well you're going to hear them again. My way! Here's one you've told me only once, you'll remember it once you hear it. Here it goes: It was snowing, ice covered the ground. We were on are way to the grocery store for Grandma. I had to skip to keep up with you. Snow drifted down onto my nose We giggled as we walked even though I had something else on my mind—"mischief"! I waited for the perfect moment then wriggled out of your grasp. I ran with the wind and slipped and fell and sat there for a few seconds then burst out laughing. Meanwhile you had run after me and slipped and fell, almost landing on top of me. "Yikes" I said as I scrambled to the side. Your face turned red as a beet but then you started laughing. We tried to get up but we could'nt. Finally sombody got us up. You carried me there and back.

Sound familiar? There's your all-time favorite. Oh by the way could you and a few other family members come to my recital in June? I would really like you to be there and hopefully you'll meet my sister! Well here comes the story. It was a sunny summer day. I was staying at your apartment and we were eating breakfast. I glanced over to your plate and noticed that you had more sausage than I did. "I want some orange juice please" I said. I watched you get the juice. Before I quickly swiped one of your sausages onto my plate, you came back with the juice. "Hey," you said "how come I only have 3 sausages and you have 4? "I don't know," I answered You didn't say anything else after that. I wondered why.

I love you and I miss you and I hope I'll see you soon.

Love

Ella

P.P.S I know you told me to stop growing, but I couldn't help being 5'2 1/2".

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140.4 **Using technology to gather qualitative data in classrooms: Practical problems and solutions.** David G. O'Brien, Purdue University, and Liz Rudenga, Trinity Christian College

141.0 **Outgrowing ourselves: Reflections and extension**

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